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Noise Abatement Control
Washington, D.C. 20460

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NOISE

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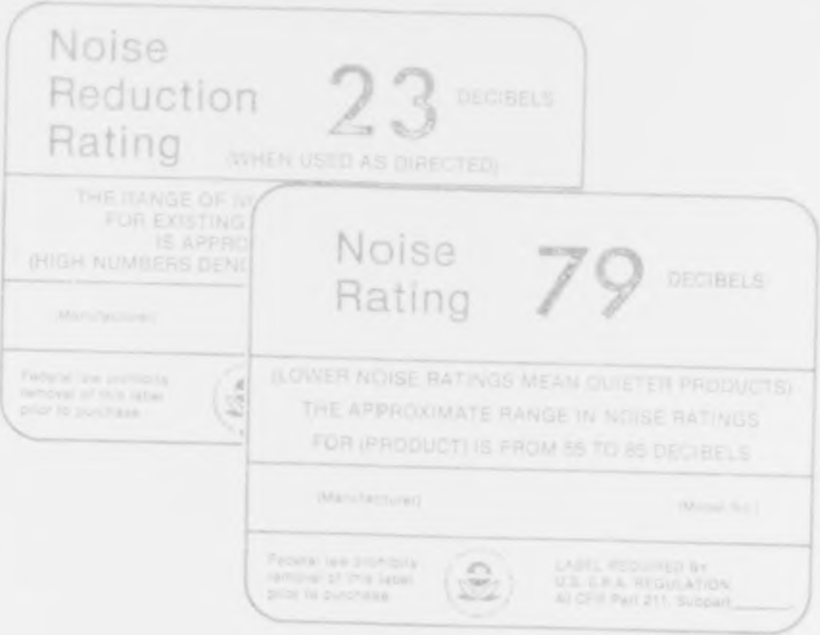

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16. ABSTRACT

This document presents information used by EPA in developing the General Provisions for Product Noise Labeling including: a review of other Federal labeling programs; the major issues involved in formulating a general approach to product noise labeling; the approach to the design graphics; potential technical problems associated with the development of specific noise rating schemes; the Agency's response to comments, and resolution of issues raised during the public comment period; an analysis of the public comment to understand the public perception of product noise labeling; and the participation of the public throughout the development of the regulation.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Docket analysis, economics, enforcement, label graphics, Noise Rating, Noise Reduction Rating, sound power, sound pressure, voluntary labeling	Acoustic descriptors, consumer issues, labeling, population surveys, public participation, rating schemes	

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REGULATORY ANALYSIS
SUPPORTING THE
GENERAL PROVISIONS
FOR
PRODUCT NOISE LABELING

August, 1979

U.S. ENVIRONMENTAL PROTECTION AGENCY
Washington, D.C. 20460

This document has been approved for general availability.
It does not constitute a standard, specification or regulation.

FOREWORD

This Regulatory Analysis has been prepared by the United States Environmental Protection Agency in support of the General Provisions for Product Noise Labeling. The regulation is being promulgated under the authority of sections 8, 10, 11, and 13 of the Noise Control Act of 1972.

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INTRODUCTION

In the Noise Control Act of 1972 (86 Stat. 1234) Congress declared that it is the "policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health and welfare." Congress further declared that one purpose of this Act is "to provide information to the public respecting the noise emission and noise reduction characteristics of ..... products (distributed in commerce)."

Section 8 of the Act (Labeling) requires that the Administrator of the Environmental Protection Agency shall, by regulation, designate any product or class of product "which emits noise capable of adversely affecting the public health or welfare; or which is sold wholly or in part on the basis of its effectiveness in reducing noise". Further, the Administrator must require by regulation that "notice be given to the prospective user (of a product) of the level of the noise the product emits, or of its effectiveness in reducing noise, as the case may be." The regulation must specify: "whether such notice should be affixed to the product or to the outside of its container or to both at the time of its sale to the ultimate purchaser or whether (it) shall be given to the prospective user in some other manner"; "the form of the notice"; and the "method and units of measurement to be used (in developing the notice)".

The Agency has, as its basic objectives in the development and the implementation of a Federal noise labeling program under Section 8 of the Noise Control Act, the following elements:

1. To provide accurate and understandable information to product purchasers and users regarding the acoustic properties of designated products so that meaningful comparisons with respect to noise emission or noise reduction can be made as part of a product purchase or use decision.

2. To provide accurate and understandable information to consumers with minimal Federal involvement. Minimal Federal involvement is to be achieved by ensuring that the Federally-imposed labeling requirements are carefully analyzed and structured so as to reduce the administrative, economic and technical impacts of the Federal program as much as possible.
3. To promote public awareness of product specific contributions to the environmental noise problem and to foster an understanding of associated terminology and concepts.
4. To promote effective voluntary noise labeling efforts on the part of product manufacturers and suppliers with the anticipation that a concomitant reduction in product noise may occur due to market demands.

The Agency's policy in developing and implementing a noise labeling regulatory program is to do it in as simplified, yet effective, a form as is possible. To determine that form, the Agency reviewed many other labeling programs, both Federal and voluntary, and collected and analyzed relevant data including various rating schemes, labeling graphics, and essential label content. Consumer inputs were obtained by telephone and door-to-door surveys, and through "focus groups" interviews. Public comment was carefully considered. These studies and comments supplied data which helped the Agency develop the format for a product noise labeling program under the authority of Section 8 of the Act.

The Agency essentially considered two alternative approaches to a Federal noise labeling program. One was to first issue a regulation concerning those elements that could be applied uniformly to all product classes i.e., format and content of the label, label location, and basic enforcement procedures. These "general provisions" would then be applied in conjunction with product specific regulations that would cover those aspects that are unique to the particular product or product class. The other alternative was to issue general labeling provisions for each specific product or product class on a product-by-product basis.

In the Noise Control Act, Congress declared that "national uniformity of treatment" (with respect to noise emission standards under the authority of Section 6) was essential in controlling major noise sources (in commerce). Uniformity of treatment with respect to product noise labeling would be an approach to Section 8 that is consistent with the Congressional approach to Section 6.

The Agency carefully and completely analyzed the implication of each alternative method of developing a Federal noise labeling program. It was decided that the first alternative, issuing general provisions to the noise labeling program, offered a better assurance of national uniformity of treatment within the program.

Therefore, The Agency proposed that the general provisions of the product noise labeling program, as a first step in carrying out the Congressional mandate of Section 8 of the Act, be based on the first alternative. The general provisions were proposed and published in the Federal Register on June 22, 1977 (42 FR 31722). The general provisions covered those elements of the labeling program that are capable of being applied uniformly across different product classes. Regulations specific to a product or class of products would address those areas where uniformity is not feasible or where a product's unique characteristics justify variations from the general provisions.

Public Participation

At the time of publication of the proposal, EPA submitted written public comment on the General Provisions as well as other aspects of the Product Noise Labeling Program by means of direct mailings, of information about the regulation to manufacturers, distributers, consumer and environmental groups, other Federal Agencies, State and local Governments, various trade associations, newspapers and consumer oriented periodicals, educational institutions, and others.

The information provided was in the form of fact sheets, copies of the proposed regulation, and press releases generally describing the proposed program. A public comment period of 90 days was established with closing scheduled for September 20, 1977 Public hearings were not initially scheduled. As a result of the substantial public interest, as evidenced by the large number of letters received shortly after publication in the Federal Register, the EPA decided to schedule public hearings, and extended the comment period to October 28, 1977. Hearings were held in Washington, D.C. on September 16, 1977; in Cedar Rapids, Iowa on September 20, 1977; and in San Francisco, California on September 22, 1977.

To notify the public on the availability of public hearings in their areas as a means of expressing their opinions on and suggestions for the program, the Agency arranged television and radio broadcasts.

In all, the Agency received 735 written comments by the close of the comment period and took some 1094 pages of oral testimony from 51 individuals, organizations and businesses at the three public hearings. A complete list of commenters is in Appendix B of Part III. Over 600 of the written comments were from private citizens. The comments deal with virtually every aspect of the program. A large majority of the comments were in favor of the proposed noise labeling program. Most of the favorable comment came from private citizens, while the majority of industry commenters were critical of various aspects of the program.

The public comments and the issues they addressed were carefully analyzed and considered by the Agency before publication of the final regulation. This final rule, Product Noise Labeling, General Provisions, was published in Volume 44 of the Federal Register in August of 1979. The regulation includes provisions concerning product applicability, definitions, label format and content, label graphics, and enforcement provisions concerning inspection , monitoring and exemptions.

To provide adequate notice to the public on the provisions of this final rule, the Agency developed explanatory material in the form of letters of introduction, fact sheets, questions and answers, press releases and reprints of the Federal Register. These items were mailed to manufacturers' and distributers' associations, consumer and environmental groups, educational institutions, other Federal agencies, international organizations, import/export organizations, newspapers and consumer oriented media, State and local governments, and any other interested parties that the agency was able to identify. An abbreviated list of parties contacted is included in Appendix E of Part III.

A complete Agency product noise labeling action with respect to any given product or class of products will consist of the requirements contained in the general provisions that are applicable to the product along with those contained in the product-specific noise labeling regulation.

The program and its impacts will be continually evaluated so that any revisions to the regulatory approach might be made.

OUTLINE AND SUMMARY OF THE REGULATORY ANALYSIS

This document presents the results of studies by the U.S. Environmental Protection Agency to develop general background information concerning product noise labeling. Also included is the analysis of all comments from the public concerning the proposed general provisions regulation.

This report is divided into three main parts. Each part is further divided into sections. A summary of the Background Document is listed below.

PART I: The Development of Noise Labeling General Provisions

Section 1 - reviews other Federal labeling programs.

Section 2 - contains a discussion of some of the major issues involved in formulating a general approach to product noise labeling (under Section 8 of the Noise Control Act).

Section 3 - presents an aproach to the design graphics associated with a noise labeling program.

Section 4 - deals with potential technical problems associated with the development of specific noise rating schemes. The example used addresses common household appliances.

PART II: Docket Analysis

Comments received from the public concerning the proposed general provisions are discussed. Respondents are identified by their appropriate docket number. The primary function of the Docket Analysis is to present the Agency's response to all comments and issues raised by the public.

Section 1 - addresses issues concerning the Agency's statutory authority to require product labeling.

Section 2 - addresses issues pertaining to selection of products for noise labeling e.g. criteria, types of products.

Section 3 - addresses issues that concern what the label will contain e.g. what information, liabilities implied by label information and alternatives to the proposed general provisions.

Section 4 - addresses reasons for the chosen label format, and problems seen by commenters.

Section 5 - addresses comments concerning the various types of labeling and location on the packaging.

Section 6 - addresses comments on rating schemes, test methodologies, choice of acoustic parameters, and the "descriptor" to best convey the noise information.

Section 7 - addresses issues pertaining to the general enforcement procedures.

Section 8 - addresses the issues related to an economic analysis for each product specific labeling action, the costs such an action would have to the government, and how consumer product preference, because of the noise label, will be assessed.

Section 9 - presents data on a number of noise related complaints received about various products.

Appendix A presents the definition of issues from each docket entry, both written comments and oral testimony.

Appendix B is an index of all docket submissions, written and oral, which allows one to identify the source of different comments where they are not specifically mentioned in the text.

PART III: Perspective on the Proposed Noise Labeling Program

Section 1 - presents the tabulations of public docket comments reflecting either support or opposition for the proposed noise labeling program.

Section 2 - presents the results of a nationwide telephone survey conducted in order to learn how the general public feels about noise, noisy products, product noise labeling and the elements of an effective noise label.

Section 3 - presents the results of a door-to-door survey and focus group discussions in order to gather more in-depth knowledge on the elements of an effective noise label.

Appendix A presents the questionnaire used in the telephone survey. Appendix B presents the interview protocol used in the door-to-door survey. Appendix C presents the interview guide and questionnaires used in the focus group discussions, while excerpted comments from the focus group discussions are presented in Appendix D. Appendix E is a list of parties reached through the Agency's active efforts for assuring public participation.

PART I

DEVELOPMENT OF NOISE LABELING GENERAL PROVISIONS

SECTION 1: REVIEW OF LABELING LAWS

As part of a general study on labeling, an extensive review of Federal, industry, and private labeling efforts was undertaken. The review was conducted so that the Environmental Protection Agency (EPA) might gain insight into its noise labeling program from existing labeling programs. Of particular interest were government agency consumer information labeling programs. Lists of the agencies and examples of general categories and specific products reviewed are given in Tables 1-1 and 1-2. This section contains summaries of 24 significant government labeling efforts. The summaries are of two types: summaries of labeling regulations affecting specific products and summaries of labeling requirements set forth in the mandating Acts.

The reviews are not to be construed as complete, authoritative descriptions of the government labeling programs, but rather as interpretative summaries that highlight the labeling issues relevant to EPA.

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Table 1-1

Federal Agencies Involved in Labeling

- Department of Energy (DOE)
- Consumer Product Safety Commission (CPSC)
- Department of Agriculture (DOA)
- Department of Commerce (DOC)
- Department of Defense (DOD)
- Department of Justice (DOJ)
- Environmental Protection Agency (EPA)
- Federal Trade Commission (FTC)
- Food and Drug Administration (HEW)
- National Highway Traffic Safety Administration (DOT)
- Occupational Safety and Health Administration (DOL)

Table 1-2
Examples of Specific Products and General Categories Subject to Labeling Laws

Tires
Electrically operated toys
Charcoal briquettes
Air conditioners
Lawn darts
Toy caps
Bicycles
Car seats for children
Power amplifiers
Refrigerators, freezers
Textile wearing apparel and yard goods
Full-size cribs
Hazardous substances
Insecticides, fungicides and rodenticides
Gasoline
Cigarettes
Drugs
Food
Light bulbs
Motor vehicles
Electric appliances
Upholstered products
Agricultural seed
Occupational safety equipment

CIGARETTES

A. PRODUCT:	Cigarettes: Labeling required under "Public Health Cigarette Smoking Act" (P.L. 89-92)
B. AGENCY:	Department of Justice
C. PURPOSE:	Information with respect to any relationship between smoking and health
D. GRADE/RATING:	Not graded or rated under the above Public Laws
E. TECHNICAL BASIS/ ORGANIZATION:	No technical basis per se since there is no grading, but there is a technical basis behind the Congressional decision to require a warning on all cigarette packages
F. LABEL CONTENT:	"Warning: The Surgeon General has Determined that Cigarette Smoking is Dangerous to Your Health"
G. PHYSICAL CHARACTERISTICS:	Specified as follows: Conspicuous and legible type in contrast by typography, layout or color with other printed matter on the package
H. LOCATION:	Conspicuously located on every package
I. COMMENTS:	This is informational labeling specified by Congress and administered by the Department of Justice

PRODUCTS COVERED BY: "FAIR PACKAGING AND LABELING ACT"

A. PRODUCT:	All products for which labeling is required under the "Fair Packaging and Labeling Act: (15 USC 1451 et. seq.)
B. AGENCY:	Federal Trade Commission (16 CFR 500-503)
C. PURPOSE:	Truthful packaging and labeling of products
D. GRADES/RATINGS	
E. TECHNICAL BASIS/ CATEGORIZATION:	Not applicable
F. LABEL CONTENT:	1. Statement of identity: "name"; 2. Name and place of business of the manufacturer, packer or distributor 3. Net quantity of contents; 4. If the label bears a representation as to the number of servings, uses, or application of such commodity, the label shall bear in immediate conjunction therewith, a statement of the net quantity of each such serving, use or application.
G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. Type size must be easily read; 2. Type must be parallel to the base of the package
H. LOCATION:	Specified as follows: 1. The statement of identity and the net quantity must appear on the "Principal Display Panel"; 2. The net quantity declaration shall be placed in the bottom 30 percent of the area of the label panel; 3. The name and place of business of manufacturer . . . shall be conspicuously located on the package.

FOOD COVERED BY "FEDERAL FOOD, DRUG AND COMESTIC ACT"

A. PRODUCT:	Food: Labeling required under the "Federal Food, Drug and Cosmetic Act" (21 USC 301 et. seq.)
B. AGENCY:	Department of Health, Education and Welfare; Food and Drug Administration
C. PURPOSE:	Standards of identity and definition, quality, and fill of container for the purpose of promoting honesty and fair dealing in the interest of consumers
D. GRADES/RATINGS:	Not graded per se. The Act prohibits the introduction of adulterated or misbranded food into interstate commerce. The Act defines misbranded and adulterated food. In general terms, adulterated food is deemed to be any food which "contains any poisonous or deleterious substance which may render it injurious" to health or if it "is otherwise unfit for food."
E. TECHNICAL BASIS/ CATEGORIZATION:	
F. LABEL CONTENT:	Food: The following information must appear on the label: 1. The name and place of business of the manufacturer, packer or distributor; 2. An accurate statement of quantity of contents in terms of weight, measure or numerical count; 3. If the product is an imitation of another food, the word imitation (in type of uniform size and prominence) immediately preceding the name of the food imitated; 4. If the product purports to be or is represented for special dietary uses, information concerning its vitamin, mineral and other dietary properties; 5. If the product bears or contains any artificial flavoring, artificial coloring or chemical preservative, a statement of that fact;

6. If the product purports to be or is represented as food for which a definition and standard of identity has been prescribed by regulations, the name of the food as specified in the definition and standards, and insofar as may be required by such regulations, the common names of optional ingredients;
7. If the food purports to be or is represented as a food for which a standard of quality has been prescribed by regulations and its quality falls below such standard, a statement that it falls below such standard (in a manner and form as such regulations specify);
8. If the food purports to be or is represented as a food for which a standard or standards of fill of container have been prescribed by regulations and it falls below the standard of fill of container applicable thereto, a statement that it falls below such standard (in a manner and form as such regulations specify);
9 If the product is not subject to the requirements of item 6, the common or usual name of the food, if any there be, and in case it is fabricated from two or more ingredients, the common or usual name of each such ingredient;
10. If it is a raw agricultural commodity which is the product of the soil, bearing or containing a pesticide chemical applied after harvest, the shipping container of such commodity must declare the presence of such chemical in or on such commodity and the common or usual name and the function of such chemical;
11. Labeling must be in conformance with an applicable regulation issued pursuant to Section 3 or 4 of the Poison Prevention Packaging Act of 1970.

G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. All required information must be placed with such conspicuousness (as compared with other words, statements, designs in the labeling) and in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.
H. LOCATION:	Specified: 1. All required information must be prominently located where it is likely to be read under customary conditions of purchase and use.

PRODUCTS COVERED BY CONSUMER PRODUCT SAFETY ACT

A. PRODUCT: All products for which labeling is required under the "Consumer Product Safety Act" (15 USC 2051 et. seq.)

B. AGENCY: Consumer Product Safety Commission

C. PURPOSE: To protect the public against unreasonable risks of injury associated with consumer products; to assist consumers in evaluating the comparative safety of consumer products; to develop uniform safety standards for consumer products.

D. GRADES/RATINGS:

E. TECHNICAL BASIS/ CATEGORIZATION: The Commission determines if a consumer product presents an unreasonable risk of injury to the public. If the product does present an unreasonable risk, the Commission then determines whether or not a safety standard will eliminate the unreasonable risk. If no feasible product safety standard would adequately protect the public from the unreasonable risk of injury associated with the product, the Commission may propose and promulgate a rule declaring such product a banned hazardous product.

Requirements of CPS standards (other than requirements relating to labeling, warnings or instructions) shall, whenever feasible, be expressed in terms of performance requirements.

F. LABEL CONTENT: For any product which is subject to a consumer product safety standard:

1. Date and place of manufacture;
2. A suitable identification of the manufacturer or the private labeler and the code mark of the manufacturer in the case of a private labeler;
3. A certification that the product meets all applicable consumer product safety standards and a specification of the standards which are applicable.

G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. Such labels, where practicable, may be required by the Commission to be permanently marked on or affixed to any such consumer product.
H. LOCATION:	Specified as follows: 1. The certificate of conformity shall accompany the product or shall otherwise be furnished to any distributor or retailer to whom the product is delivered.

PRODUCTS COVERED BY FEDERAL "HAZARDOUS SUBSTANCES ACT"

A. PRODUCT: All products for which labeling is required under the "Federal Hazardous Substances Act" (15 USC 1261 et. seq.)

B. AGENCY: Consumer Product Safety Commission

C. PURPOSE: Consumer protection

D. GRADES/RATING:

E. TECHNICAL BASIS/CATEGORIZATION:

Not graded. A hazardous substance "is any substance or mixture of substances (as determined by the Commission) which is toxic, corrosive, an irritant, a strong sensitizer, flammable or combustible, or generates pressure through decomposition, heat or other means, if such substance or mixture of substances may cause substantial personal injury or substantial illness during or as a proximate result of any customary or reasonable foreseeable handling or use, including reasonably foreseeable ingestion by children. The tests to determine if a product is a hazardous substance are set forth in the regulations".

F. LABEL CONTENT:

1. Name and place of business of the manufacturer, packer, distributor or seller;
2. Common or usual name or the chemical name (if there be no common or usual name) of the hazardous substance(s);
3. Signal word "DANGER" on substances which are extremely flammable, corrosive, or highly toxic; the signal word "WARNING" or "CAUTION" on all other hazardous substances;
4. An affirmative statement of the principal hazard or hazards;
5. Precautionary measures describing the action to be followed or avoided;
6. Instructions, when necessary or appropriate, for first aid treatment;
7. The word "POISON" for any hazardous substance which is defined as "highly toxic";
8. Instructions for handling and storage of packages which require special care in handling or storage;

9. The statement "Keep out of the reach of children", or its practical equivalent, or, if the article is intended for use by children and is not a banned hazardous substance, adequate directions for the protection of children from the hazard;
10. Specific product labeling statements as deemed necessary by the Commission as specified in Section 4 of the Poison Prevention Packaging Act;
11. On the container of household substances which do not meet the standards set under Section 3 of the Poison Prevention Packaging Act, the following statement: "This package for households without young children".

G. PHYSICAL CHARACTERISTICS: Specified as follows:

1. Written in the English language;
2. Conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the label.

H. LOCATION: Location of label not specified.

INSECTICIDES, FUNGICIDES AND RODENTICIDES

A. PRODUCT: Labeling of pesticides required under the "Insecticides, Fungicides and Rodenticides Act" and related acts, and EPA regulations at 40 CFR 162

B. AGENCY: Environmental Protection Agency

C. PURPOSE: Protection of public health through identification of hazards

D. GRADE/RATING: Use classification; other information required

E. TECHNICAL BASIS/ CATEGORIZATION: The Act states: "unreasonable adverse effects on the environment" i.e., unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide (as determined by the Administrator of the EPA).

F. LABEL CONTENT:

1. Registration number of manufacturing plant;
2. Directions for use necessary for effecting the purpose for which the product is intended and adequate to protect health and the environment;
3. The statement "Keep Out of Reach of Children";
4. A signal word such as "Danger", "Warning" or "Caution";
5. Other warning or cautionary statements as necessary to protect the public;
6. Ingredient statement: name, percentage designation;
7. Use classification: general, restricted;
8. Name and address of the manufacturer, packer, formulator, registrant, or person for whom the product is produced;
9. Name, brand or trademark;
10. Net weight or measure of the content;
11. For pesticides containing any substance(s) in quantities highly toxic to man:
    a. skull and crossbones
    b. the word "poison" as well as the word "danger"
    c. a statement of practical treatment in case of poisoning by pesticides.

G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. Any word, statement or other information required must be placed on the label conspicuously (as compared to other words, statements, designs, or graphic matter in the labeling). 2. Likely to be readable and understood by the ordinary individual with normal vision, under customary conditions of purchase and use. 3. If the word "Poison" is required, it must be prominent in red on a background of distinctly contrasting color. 4. Specified are a minimum type size for warning statements and signal words.
H. LOCATION:	1. All information required by the Act must be prominently located on the outside container or wrapper of the retail package so as to be clearly readable when presented or displayed under customary conditions of purchase. 2. Specified are: a. the location of signal words and the statement "Keep out of Reach of Children"; b. location of ingredient statement; c. location of skull and crossbones and statement of practical treatment for poisons highly toxic to man.
I. COMMENTS:	The above summary applies to the labeling requirements as they were developed as of summer of 1975.

LIGHT-DUTY MOTOR VEHICLES

A. PRODUCT:	Light-duty Motor Vehicles "Voluntary Fuel Economy Labeling"
B. AGENCY:	Environmental Protection Agency (39 FR 36890), Federal Energy Administration
C. PURPOSE:	Provide new car fuel economy information at point-of-sale. The notice states that the primary goal of the program is to reduce energy usage in the transportation sector. Intermediate goals are: 1. To increase public awareness of factors which influence fuel economy; 2. To influence consumers to purchase vehicles with good fuel economy; 3. To influence manufacturers to produce vehicles with improved fuel economy.
D. GRADE/RATING:	Fuel economy is not graded per se. Fuel economy values are given in miles-per-gallon, and city and highway values are listed separately. The manufacturer presents, in one of two forms, fuel economy information for the consumer to use in his evaluation of the vehicles; this is somewhat analogous to "energy labeling". If the "general fuel economy label" is used, it presents the sales-weighted average of fuel economy values (by car line separately for passenger cars and wagons) of all vehicles with the same engine. The manufacturer may also include the range of data used to derive the sales-weighted average. If the "specific fuel economy label" is used, it presents the EPA-approved fuel economy values for the specific vehicle configuration.
E. TECHNICAL BASIS/ CATEGORIZATION:	1. City fuel economy is derived from the Federal Emission Test Procedure (40 CFR 85); a separate highway test is prescribed; 2. Fuel economy values are reported to the nearest whole mile-per-gallon.

F. LABEL CONTENT:

Consistent with that indicated in the illustrative examples published in the Federal Register (39 FR 36891) specified are:

1. EPA logo;
2. FEA logo;
3. Statement of authenticity of test results;
4. Results of tests, as described in Section D (above) for either the "general" or "specific" labels;
5. Reminder that actual fuel economy varies;
6. Where to write to receive a copy of "EPA/FEA 1975 Gas Mileage Guide for New Car Buyers".

G. PHYSICAL CHARACTERISTICS:

1. The label must be of a reasonable size and consistent in format with the illustrative examples published in the Federal Register.
2. Manufacturers may choose to differentiate "specific" from "general" labels by shape, color, size or some other readily apparent feature.

H. LOCATION:

Label must be prominently displayed either on the same window as the price sticker or on the passenger side window or other location approved by EPA/FEA.

I. COMMENTS:

A manufacturer may use either "General Labels" or "Specific Labels", on any vehicle configuration in their model line. If a manufacturer elects to participate in the program he obligates himself to place a label on every car in his product line.

The labeling program will also include a public education and information program.

At the present time a study is being conducted to evaluate the effectiveness of the fuel economy labels. The important information from this study is on the effect on consumers of this type of "awareness" labeling.

PASSENGER CAR TIRES

A. PRODUCT: Passenger Car Tires

B. AGENCY: National Highway Traffic Safety Administration (DOT) (49 CFR 575)

C. PURPOSE: Consumer information about tire quality

D. GRADE/RATING:
Treadwear: 2 or 3 digit number
Traction: 0, *, **
Temperature resistance: A, B, C

E. TECHNICAL BASIS/ CATEGORIZATION:

Treadwear: Projected mileage, based on specified test and calculation procedure, stated as percent of 30,000 miles, rounded off to nearest lower 10% value; e.g., for projected treadwear of 47,000 miles, rating is 150.

Traction: Based on traction coefficient on two wet skid pads, grade depends on meeting schedule of values established for both skid pad surfaces.

Temperature resistance: Tested on a schedule of increasing speeds under load; grade depends on highest speed without failure.

F. LABEL CONTENT:

1. On sidewall of tire:
   a. treadwear grade description and treadwear grade;
   b. all temperature resistance and traction grades, with appropriate grades circled;
2. On tread surface (except original equipment tires on a new vehicle) and for information furnished prospective purchasers of motor vehicles and tires under paragraph 575.6(c), an explanation of performance area, and a history of all possible grades for traction and temperature resistance, along with a heading "DOT Quality Grade".

G. PHYSICAL CHARACTERISTICS:

1. Sidewall label: permanently molded with character type, depth and size specified
2. Tread label: not easily removable, indelibly stamped.

H. LOCATION:

1. On tire sidewall between tire's maximum suction width and shoulder;
2. On tread surface (except original equipment on a new tire).

NON-PRESCRIPTION DRUGS

A. PRODUCT: Non-prescription drugs

B. AGENCY: Food and Drug Administration (HEW)

C. PURPOSE: Content and quality information

D. GRADE/RATING:

E. TECHNICAL BASIS/ CATEGORIZATION: Standards(minimum requirements) are set by the FDA

F. LABEL CONTENT: Labeling on the "Principal Display Panel":

1. Statement of the identity of the commodity (established name of the drug) and statement of the general pharmacological category(ies) of the principal intended action(s);
2. Net quantity of the contents.

Labeling elsewhere on packaging:

1. Name and place of business of the manufacturer, packer or distributor
    a. Where a drug is not manufactured by the person whose name appears on the label, the name shall be qualified by a phrase that reveals the connection such person has with such drug: such as "Manufactured for _____", Distributed by _____", or any other wording.
2. Statement of Ingredients (as required by Section 502(e) of the Federal Food, Drug and Cosmetic Act) shall appear together.

G. PHYSICAL CHARACTERISTICS: Regulation specified:

1. Boldface type in distinct contrast to other matter on the package;
2. Size of type (relative to other type on package);
3. Location of net weight statement on principal panel.

H. LOCATION:

1. Statement of identity and net quantity must appear on the "Principal Display Panel".
2. All other required information must appear conspicuously on the product's container.

I. COMMENTS:

The most important point to notice is: the requirement that all specified (important) information be prominently and conspicuously located and that same be placed on the "Principal Display Panel".

FOOD

A. PRODUCT: Food

B. AGENCY: Food and Drug Administration, HEW

C. PURPOSE: Truthful information on content and quantity of contents

D. GRADE/RATING:

E. TECHNICAL BASIS/CATEGORIZATION:

Grades and standards are determined in accordance with U.S. Department of Agriculture regulations. These labeling requirements are in addition to the USDA grades.

F. LABEL CONTENT:

Labeling required on the "Principal Display Panel":

1. Identity of the commodity:
    a. name of the commodity;
    b. common or usual name of the food;
    c. an appropriately descriptive term;
2. For food marketed in various optional forms, the form must be identified;
3. Net quantity of contents in the measure specified for the particular product or type of product (volume, weight, count, etc.).

Labeling required on the "Information Panel":

1. Name and place of business of manufacturer, packer or distributor;
2. If the number of servings appears, a statement of the net quantity of each serving;
3. Ingredients:
    a. where the proportion of expensive ingredient(s) present has a bearing on price or consumer acceptance, the label of such food shall bear a quantitative statement of such ingredient(s);
    b. imitation or artificial ingredients - listed as such.

Labeling permitted on the "Information Panel":

1. Nutrition information;
2. A statement of cholesterol, fat and fatty acid content if it conforms with specific requirements.

G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. Type of letters, 2. Size (relative size) of type (minimum sizes established), 3. Type must be in distinct contrast to other matter on the package.
H. LOCATION:	1. Statement of identity and net weight must appear on the "Principal Display Panel". 2. All other required labeling must appear on the "Information Panel".
I. COMMENTS:	The most important point in this labeling requirement is the stipulation that important information is to be located on the "Principal Display Panel" and that all other required labeling is to be located on the prominently located "Information Panel".

MANUFACTURED OR PROCESSED DAIRY PRODUCTS

A. PRODUCT:	Manufactured or Processed Dairy Products
B. AGENCY:	Department of Agriculture
C. PURPOSE:	Quality Information
D. GRADES/RATING:	U.S. Grade B, A, or AA or an equivalent standard of quality for U.S. name grades, if numerical score grades of a product have not been established.
E. TECHNICAL BASIS/ CATEGORIZATION:	Grades are composite ratings of various factors depending on the product, such as flavor, appearance and body. The standards are set forth in the code.
F. LABEL CONTENT:	1. USDA 2. Grade 3. U.S. Department of Agriculture inspection statement.
G. PHYSICAL CHARACTERISTICS:	1. Minimum size for the shield specified 2. Samples of approved shields are given in the code.
H. LOCATION:	On package, otherwise not specified.
I. COMMENTS:	It can be required that the package label, carton or wrapper carrying official identification be stamped or perforated with date packed and the certificate number or a code number to indicate lot and date packed.

BUTTER

A. PRODUCT:	Butter
B. AGENCY:	Department of Agriculture (7 CFR 58 Subpart P)
C. PURPOSE:	Quality Information
D. GRADES/RATINGS:	U.S. Grade AA or U.S. Score 93 U.S. Grade A or U.S. Score 92 U.S. Grade B or U.S. Score 90 U.S. Grade C or U.S. Score 89 General
E. TECHNICAL BASIS/ CATEGORIZATION:	Flavor is the basic quality factor in grading butter and is determined organoleptically by taste and smell. The flavor characteristic is identified, and together with its relative intensity, is rated according to the applicable classification. Body, color and salt characteristics are then noted and any defects are disrated in accordance with the established classification. The final U.S. grade is then established. The standards are set forth in the code.
F. LABEL CONTENT:	Same as for "Manufactured or Processed Dairy Products".
G. PHYSICAL CHARACTERISTICS:	Same as for "Manufactured or Processed Dairy Products".
H. LOCATION:	Same as for "Manufactured or Processed Dairy Products".
I. COMMENTS:	Butter is graded on one technical basis (flavor) and then is disrated for other bases (body, color and salt) in accordance with an established scheme, to come up with a final U.S. grade.

AGRICULTURAL SEEDS

A. PRODUCT:	Agricultural Seeds
B. AGENCY:	Department of Agriculture (7 CFR Part 201)
C. PURPOSE:	Classification and quality information
D. GRADE/RATING:	Class of seed
E. TECHNICAL BASIS/ CATEGORIZATION:	Set forth in code
F. LABEL CONTENT:	1. Name of each kind of seed present; 2. Percent of each kind of seed; 3. Variety of seed; 4. Type of seed; 5. Word "hybrid" if hybrid present; 6. Lot number of other identification "I.D."; 7. Origin of seed; 8. Percentage of weed seeds; 9. Percentage of agricultural seeds; 10. Percentage of weight of inert matter; 11. Percentage of germination for each kind of type/hybrid; 12. Percentage of hard seed; 13. Month and year germination test was completed; 14. "Manufacturer" - Full name and address of either shipper or consignee; 15. Inoculated seed must show expiration date for inoculation; 16. Grade - Class of seed.
G. PHYSICAL CHARACTERISTICS:	Not specified
H. LOCATION:	Tag attached securely to the container, or printed in a conspicuous manner on a side or the top of the container.
I. SPECIAL:	The label may contain information in addition to that required by the Act, provided such information is not misleading.

J. COMMENTS:

The most important point to note is that all the required information is located on a tag securely attached to the container or printed in a conspicuous manner on the top or side of the container.

It is also interesting that inoculated seed has something analogous to a useful life stamped on the product.

SHELL EGGS

A. PRODUCT: Shell eggs

B. AGENCY: Department of Agriculture (7 CFR 56)

C. PURPOSE: Size and quality information

D. GRADE/RATING: Eggs are rated

- By Quality (Grademark):
  - Grade AA (Fresh Fancy)
  - Grade A
  - Grade B
  - Grade C
  - Dirty
  - Check
- By size:
  - Jumbo
  - Extra Large
  - Large
  - Medium
  - Small
  - Pee Wee

The "quality" grade is a composite rating of the shell, air cell, white and yolk.

E. TECHNICAL BASIS/ CATEGORIZATION: The standard for individual egg quality and U.S. consumer grades are set forth in the code.

F. LABEL CONTENT:

1. USDA
2. U.S. Grade within a shield;
3. Size or weight class may appear (if not must appear prominently on main panel of carton)
4. Plant number may appear (if not must be shown elsewhere on the packaging material).

G. PHYSICAL CHARACTERISTICS: Specified as follows:

1. Samples of approved grademarks are shown in the code;
2. Size.

H. LOCATION: The grademark must be printed on the carton or on the tape used to seal the carton.

I. COMMENTS: The grading system uses and does not combine two grades, one for quality, one for size. The quality grading requires that certain requirements all be met to receive a certain grade. The size grade sets a minimum weight per dozen, per 30 dozen, and a minimum weight for individual eggs at rate per dozen. Letter codes are used.

PRODUCTS COVERED BY THE "AGRICULTURAL MARKETING ACT OF 1946"

A. PRODUCT: Processed fruits and vegetables, processed products thereof, and certain other processed food products (requirements under Agricultural Marketing Act of 1946)

B. AGENCY: Department of Agriculture (7 CFR 52)

C. PURPOSE: Quality and size information

D. GRADE/RATING:
U.S. Grade A
U.S. Grade B
U.S. Grade C
This is voluntary grading and labeling.

E. TECHNICAL BASIS/CATEGORIZATION: The grade is a composite rating of various factors such as appearance, ripeness, texture, taste, etc. Standards are set forth in the code.

F. LABEL CONTENT:

1. Grade (2 forms of label): "Packed under Continuous Inspection of the U.S. Department of Agriculture - for plants operating under continuous U.S.D.A. inspection;
2. Grade - contract in plant inspection;
3. Officially sampled date - U.S. Department of Agriculture, Washington, D.C. - contract in plant inspection.

G. PHYSICAL CHARACTERISTICS: Specified as follows:
The grade and inspection marks approved for use are shown in figures in the code.

H. LOCATION: Not specified

I. COMMENTS: Processed food has a composite grade, having a technical basis of both subjective and physical parameters. Intervals are not defined in numerical terms. Letter codes are used. The grading and labeling is voluntary.

LIVESTOCK, MEATS, PREPARED MEATS AND MEAT PRODUCTS

A. PRODUCT: Livestock, meats, prepared meats and meat products (labeling as to quality, no yield)

B. AGENCY: Department of Agriculture (7 CFR 53)

C. PURPOSE: Quality information

D. GRADES/RATINGS: The grade is a single word code, "prime", "choice", "good", "standard", "commercial", "utility", "cutter", "canner", or "cull"; accompanied when necessary by a class designation.

E. TECHNICAL BASIS/ CATEGORIZATION: The quality grade is based on separate evaluations of two general considerations:

1. The quality or the palatability - indicating characteristics of lean, and
2. The conformation of the carcass or primal cut.

The standards for these evaluations are set forth in the code.

F. LABEL CONTENT: "Official identification"

1. USDA
2. Grade within the shield;
3. Grader's code identification letters (outside the shield).

G. PHYSICAL CHARACTERISTICS: Specified as follows:

1. Shield with USDA and grade enclosed (as shown in Figure 1-8);
2. The code identification letters of the grader shall appear intermittently outside the shield.

H. COMMENTS: The composite grading system combines a number or technical basis, including maturity, marbling and quality. Quasi-descriptive single-word codes are assigned to the ratings.

COTTONSEED FOR CRUSHING PURPOSES

A. PRODUCT:	Cottonseed for crushing purposes
B. AGENCY:	Department of Agriculture (7 CFR Part 61)
C. PURPOSE:	Quality control (purity, soundness)
D. GRADE/RATING:	Basis grade 100 1. High grades are defined as those above 100; 2. Low grades are defined as those below 100; 3. Grades for American Pima cotton shall be suffixed by the designation "American Pima" or by the symbol "AP"; 4. Below grade 40.0 shall be designated as "below grade cottonseed" and a numerical grade shall not be indicated.
E. TECHNICAL BASIS/ CATEGORIZATION:	Based on numerical "quantity index" (yield) and numerical "quality index". These are multiplied and divided by 100.
F. LABEL CONTENT:	Numerical grade on certificate.
G. PHYSICAL CHARACTERISTICS:	Not specified
H. LOCATION:	Not specified
I. SUMMARY:	The most interesting point here is the grading system. A basis grade of 100 is set and "high" and "low" grades relate to this. This type of scale might be useful with a grade of 100 signifying the greatest amount of noise energy a person can receive without being fully "impacted": a low grade cut-off point is identified.

WORKPLACE SIGNS (General Requirements)

A. PRODUCT:	Workplace signs (general requirements)
B. AGENCY:	Department of Labor, Occupational Safety and Health Administration (29 CFR Part 1910)
C. PURPOSE:	To identify hazards
D. GRADE/RATING:	
E. TECHNICAL BASIS/ CATEGORIZATION:	Not applicable
F. LABEL CONTENT:	Symbols used should follow recognized practices (examples given). Wording used is qualitatively specified (examples given).
G. PHYSICAL CHARACTERISTICS:	1. Colors 2. Proportions 3. Format 4. Sign shape 5. General construction of sign. All spelled out and referenced to ANSI or ASAE standards.
H. LOCATION:	Qualitatively specified, except in cases of in-plant traffic signs and slow moving vehicle emblems, which are referenced to national standards.

WORKPLACE SIGNS AND MARKINGS (Specific Requirements)

A.	PRODUCT:	Workplace signs and markings (specific requirements)
B.	AGENCY:	Department of Labor, Occupational Safety and Health Administration (29 CFR Part 1910)
C.	PURPOSE:	Safety
D.	GRADE/RATING:	Not applicable
E.	TECHNICAL BASIS/ CATEGORIZATION:	
F.	LABEL CONTENT:	See subheading information below: Means of Egress (1910.37) Wording and symbol (arrow) spelled out; Overhead Conveyors (1910.261) - Specific wording "or their equivalent" must be used; Asbestos Air Contaminants - wording specified; Manlift Instruction and Warning Signs - (1910.68) - approximate wording given for instructional signs; legend specified for visitor warning sign; Bulk Oxygen Equipment Locations (1910.104) - Specific words or "equivalent"; Transportation Vehicle Carrying Explosives (1910.109) - Marked with class of explosive or oxidizer carried. Additional warning "Dangerous" for vehicle carrying more than a specified weight is necessary.
G.	PHYSICAL CHARACTERISTICS:	See subheadings below: Means of Egress - Size, color and design should be readily visible and distinctive from other signs; Overhead Conveyors - must be erected in accordance with ANSI Z35.1-1968; Electromagnetic Radiation Warning Symbol (1910.97) - Color, format, proportions, location of space (or ancillary information specified); Asbestos Air Contaminant Caution Signs and Labels - Sign size, letter size, style and spacing specified for caution signs, size and contrast of letters qualitatively described for label;

Manlift Signs (1910.68) - Letter size and color specified for instructional signs; letter size, shape and illumination required is specified for top floor warning sign; letter size, shape and contrast specified for visitor warning signs;
Bulk Oxygen Equipment Locations - "permanently placarded";
Transportation Vehicle Carrying Explosives - height, stroke, color and format of signs is specified;
Portable Fire Extinguisher Locations (1910.157) - means shall be provided to conspicuously indicate the location and intended use of extinguishers.

H. LOCATION: See subheadings below:

Asbestos Air Contaminant Caution Signs and Labels - location qualitatively specified;
Transportation Vehicle Carrying Explosives - Specified locations on vehicle.

I. COMMENTS: More important information is specified more fully.

WORKPLACE MACHINERY

A. PRODUCT:	Workplace machinery - tags for hazardous conditions, defective equipment
B. AGENCY:	Department of Labor, Occupational Safety and Health Administration (29 CFR Part 1910.145)
C. PURPOSE:	Temporary warning of hazardous conditions or defective equipment
D. GRADE/RATING:	Not applicable
E. TECHNICAL BASIS/ CATEGORIZATION:	
F. LABEL CONTENT:	Symbols are specified for radiation and biohazards.
G. PHYSICAL CHARACTERISTICS:	Color and format specified for some tags ("do not start", "radiation" and "biohazards").
H. LOCATION:	Location specified for "do not start", "danger", and "caution" tags.

GASOLINE

A. PRODUCT:	Gasoline
B. AGENCY:	Federal Trade Commission (16 CFR 422)
C. PURPOSE:	Octane information at the pump
D. GRADES/RATINGS:	A single number octane grade derived by method set forth in the code and termed "octane number".
E. TECHNICAL BASIS/ CATEGORIZATION:	The "octane number" is calculated from the research octane number and the motor octane number, which are in turn determined from tests described in ASTM D439-70 and ASTM D2699 and D2700.
F. LABEL CONTENT:	Minimum "octane number" of the motor gasoline being dispensed must appear on the pump.
G. PHYSICAL CHARACTERISTICS:	Specified as follows: 1. Permanently attached 2. Conspicuous
H. LOCATION:	Conspicuously located on the gasoline pump.
I. COMMENTS:	The FTC octane number is a combination of industry standards and a standard set forth in the code. PROBLEM: The octane number in car owners' manuals at the time of the rule-making was the research octane number. In 1974, the auto industry came up with a symbol which indicates the range of octane appropriate for the vehicle. The symbol is meaningless to the consumer since it has no obvious relation to the number that is posted on the gasoline pump. In 1975, the auto industry decided to print in car owners' manuals the research octane number, the FTC octane number and the octane symbol, making no mention of which octane rating is found on the gasoline pump.

FULL-SIZE BABY CRIBS

A. PRODUCT: Full-size baby cribs

B. AGENCY: Consumer Products Safety Commission (16 CFR 1508)

C. PURPOSE: Safety, Warnings and Instructions

D. GRADE/RATING:

E. TECHNICAL BASIS/CATEGORIZATION: Not graded. Safety standards are set forth in the code.

F. LABEL CONTENT:

1. Name and place of business of the manufacturer, importer, distributor, and/or seller;
2. Model number, stock number, catalog number, item number or other symbol expressed numerically, in code or otherwise, such that only articles of identical construction, composition and dimensions shall be identical in markings;
3. The following warning: "Caution" any mattress used in this crib must be at least 27-1/4 inches by 51-5/8 inches, with a thickness not exceeding six inches or the equivalent statement with dimensions given in centimeters;
4. Statement of conformance to applicable regulations promulgated by the CPSC;
5. Assembly instructions for cribs shipped other than completely assembled.

The instructions shall also include:
a) cautionary statements concerning secure tightening and maintaining of bolts and other fasteners;
b) cautionary statement on maximum height for child using crib;
c) mattress size warning statement.

G. PHYSICAL CHARACTERISTICS:

1. Size of type of warning (minimum);
2. Style of type of warning;
3. Warning must contrast sharply with the background of the label;
4. Markings on crib shall be of a permanent nature;

5. Markings shall not be readily removable or subject to obliteration during normal use or when the article is subjected to reasonably foreseeable damage or abuse.

H. LOCATION:

The label contents (items 1-4) must be clearly and conspicuously visible on the crib under normal conditions of retail display. The label contents (items 1-4) must also be clearly marked on the retail carton.

I. COMMENTS:

The label herein is primarily for proper assembly and use of the crib.

It is important to note that the code requires that label content (items 1-4) be clearly visible under normal retail conditions.

LIGHT-DUTY MOTOR VEHICLES, HEAVY-DUTY GASOLINE ENGINES

A.	PRODUCT:	Light-duty motor vehicles, heavy-duty gasoline engines
B.	AGENCY:	Environmental Protection Agency (40 CFR Part 85)
C.	PURPOSE:	Provide emission control maintenance information
D.	GRADE/RATING:	Not applicable
E.	TECHNICAL BASIS/ CATEGORIZATION:	
F.	LABEL CONTENT:	1. Heading - "Vehicle Emission Control Information"; 2. Full corporate name and trademark of manufacturer; 3. Engine displacement and family; 4. Tune-up specs and adjustment (specified) along with indication of what the transmission position should be and what accessories should be operative during tune-up; 5. A conformance standard (specified).
G.	PHYSICAL CHARACTERISTICS:	1. Constructed of plastic or metal that is permanently attached so that it cannot be removed without being destroyed; 2. Letter shape, language and color contrast specified.
H.	LOCATION:	Vehicle-engine compartment; engines-on engine
I.	COMMENTS:	This kind of information label provides not only instruction but also serves to establish a legal basis for compliance; hence the contents and stipulations are pre-established and impressed more vigorously than for purely information labels.

TEXTILE WEARING APPAREL AND YARD GOODS

A. PRODUCT:	Textile wearing apparel and yard goods
B. AGENCY:	Federal Trade Commission (16 CFR 423)
C. PURPOSE:	Disclosures for care and maintenance
D. GRADE/RATING:	Not graded. Maintenance and care instructions must be given.
E. TECHNICAL BASIS/ CATEGORIZATION:	The maintenance and care instructions required are those necessary for ordinary use and enjoyment of the article.
F. LABEL CONTENT:	1. Instructions for care and maintenance; 2. Warnings when normal care procedure associated with that article will, in fact, if applied, substantially diminish the ordinary use and enjoyment of the article.
G. PHYSICAL CHARACTERISTICS:	1. Permanently affixed to a finished article of wearing apparel; 2. Remain legible for useful life of article; 3. For yard goods, can be permanently affixed to finished article using normal household methods.
H. LOCATION:	Finished article of wearing apparel: Label must be permanently attached to article. Yard goods: Label must accompany goods.
I. COMMENTS:	The care and maintenance labeling program has had some problems at the consumer end. At times, finished articles of clothing, if washed and dried according to instructions, will shrink or run or become misshaped. Also, when purchasing yard goods, it is common not to receive a care label with the goods.

Section 2. Noise Labeling - General Approach

SECTION 2: NOISE LABELING - GENERAL APPROACH

The labeling of consumer products is an area of governmental regulation that is growing. Certain consumer products like motorcycles now have several labels, and others are proposed or under development. Care must be taken to ensure that the consumer is not confused by the clutter of different messages, symbols, and warnings.

TYPE OF LABELS

Table 1-3 lists the various kinds of labels that are attached to products for regulatory purposes, putting aside entirely voluntary manufacturer labeling. By "regulatory" it is meant that the label is put there in accordance with some established rule or standard. The regulator need not be the government, nor must use of the standard be governmentally required. Some examples in the listed categories are:

- Governmental requirements: mandatory labeling rules established by EPA, NHTSA, FDA, USDA, FTC, etc.
- Trade association rules: such organizations as BIA (Bicycles), OPEI (power lawn care equipment), ARI (central air-conditioners) allow use of seals and labels to indicate specific performance measures.
- Others: such magazines as Good Housekeeping and Parents have approval programs, usually without a publicly disclosed test basis; the Snell Foundation has a voluntary crash helmet standards program.

Table 1-3
Types of Labels

LABELS ARE ATTACHED TO PRODUCTS FOR "REGULATORY" PURPOSES UNDER:

- GOVERNMENT REQUIREMENT
- TRADE ASSOCIATION RULES
- OTHER - INCLUDING SEALS OF APPROVAL OF MAGAZINE PUBLISHERS

INFORMATION LABELING

The various kinds of labeling shown in Table 1-3 can be further categorized, as shown in Table 1-4, as being either conformance labeling or information labeling.

Table 1-4
Conformance Labeling and Information Labeling

CONFORMANCE LABELING - TO CLAIM COMPLIANCE WITH GOVERNMENTAL OR PRIVATE STANDARDS OF PERFORMANCE REGS

- LABELING OF THIS TYPE, WHICH EPA MAY DO UNDER SECTION 6 OF THE ACT, IS NOT OF INTEREST HERE

INFORMATIONAL LABELING - PROVIDES ESSENTIAL INFORMATION TO PURCHASER/USER

- QUALITY GRADES
- USE INSTRUCTIONS
- PERFORMANCE
- HAZARDS
- LEGAL REQUIREMENTS RELATED TO THE INFORMATION LABEL

- THIS TYPE OF LABELING IS TO BE DONE UNDER SECTION 8 OF THE ACT

The goal of information labeling is to say to the prospective purchaser or user: "Look here for noise information about this noise producer or noise reducer." This information must appear to be - and indeed must be - more than self-serving, unregulated advertising. The label should convey the message that the contents are "Government approved" or "Government checked" and thus trustworthy and unprejudiced.

Table 1-1 listed those agencies whose labeling regulations have been examined. Many of these agencies are responsible for labeling more than one product category.

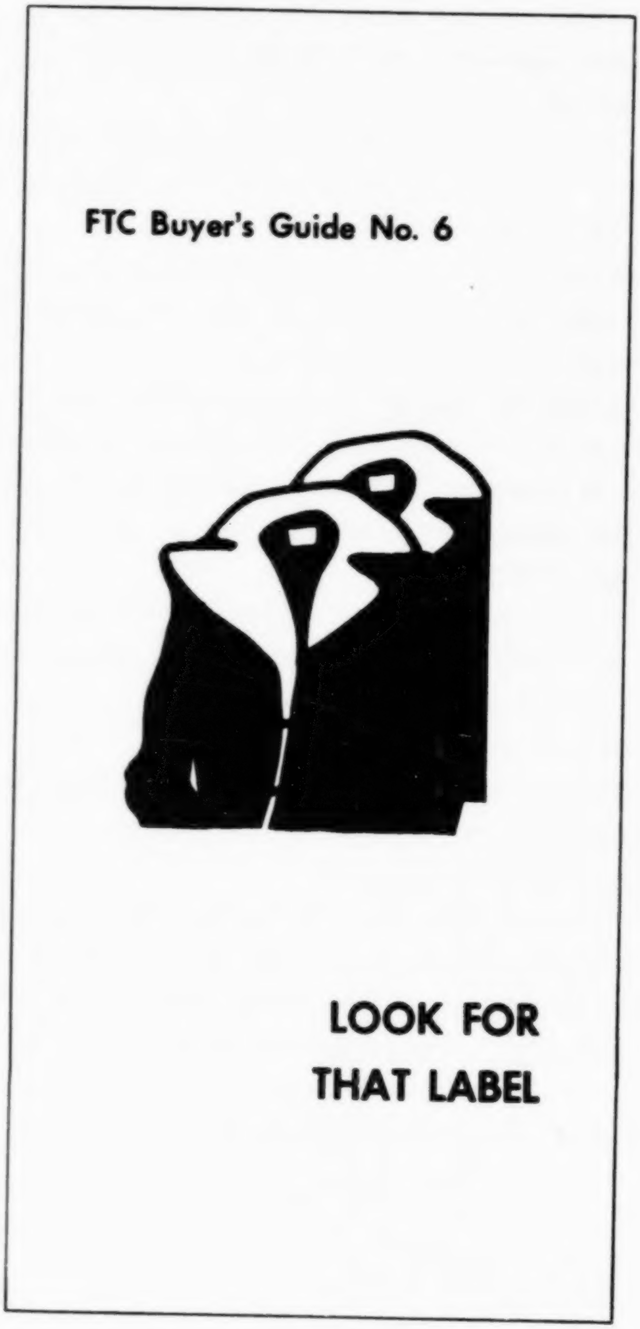
Label requirements have been accompanied by public-information campaigns - sometimes undertaken by the regulatory agency alone, as in the example shown in Figure 1-1.

The public information process is greatly aided when industry itself joins in the effort. Figure 1-2 shows covers to brochures - the right-hand one published at Government expense by the FDA, the left-hand one, which makes very effective use of color printing, by a large retail food chain.

The clarity of the explanations given to consumers varies. Figure 1-3 shows the label information one should expect to find on cheese and explains the terms used by the industry.

Figure 1-4 shows a catalog entry that includes a noise rating (2.9 sones). However, the explanation headed Ventilator Note is obscure and confusing to the lay public, and indeed, to a sample of acoustical engineers.

These same engineers also had difficulty understanding the advertisements shown in Figure 1-5. The ventilation quietness rating and the air conditioner sound rating are not on the same basis and thus no meaningful comparison can be made. Further, the quietness ratings are not readily related to the sound levels in decibels, with which the public is generally familiar.



FTC Buyer's Guide No. 6

LOOK FOR
THAT LABEL

Figure 1-1
Federal Trade Commission Awareness Notice

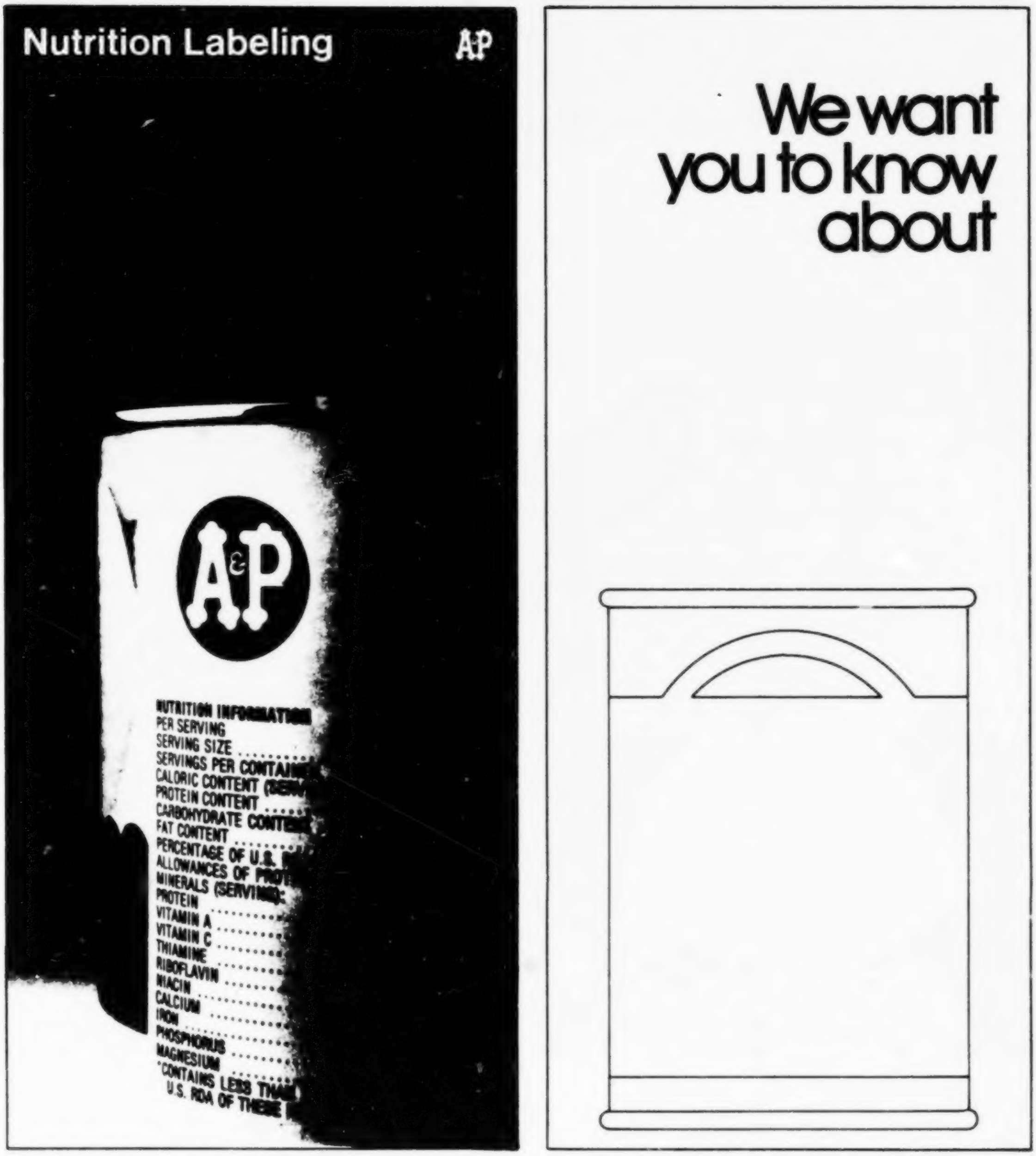
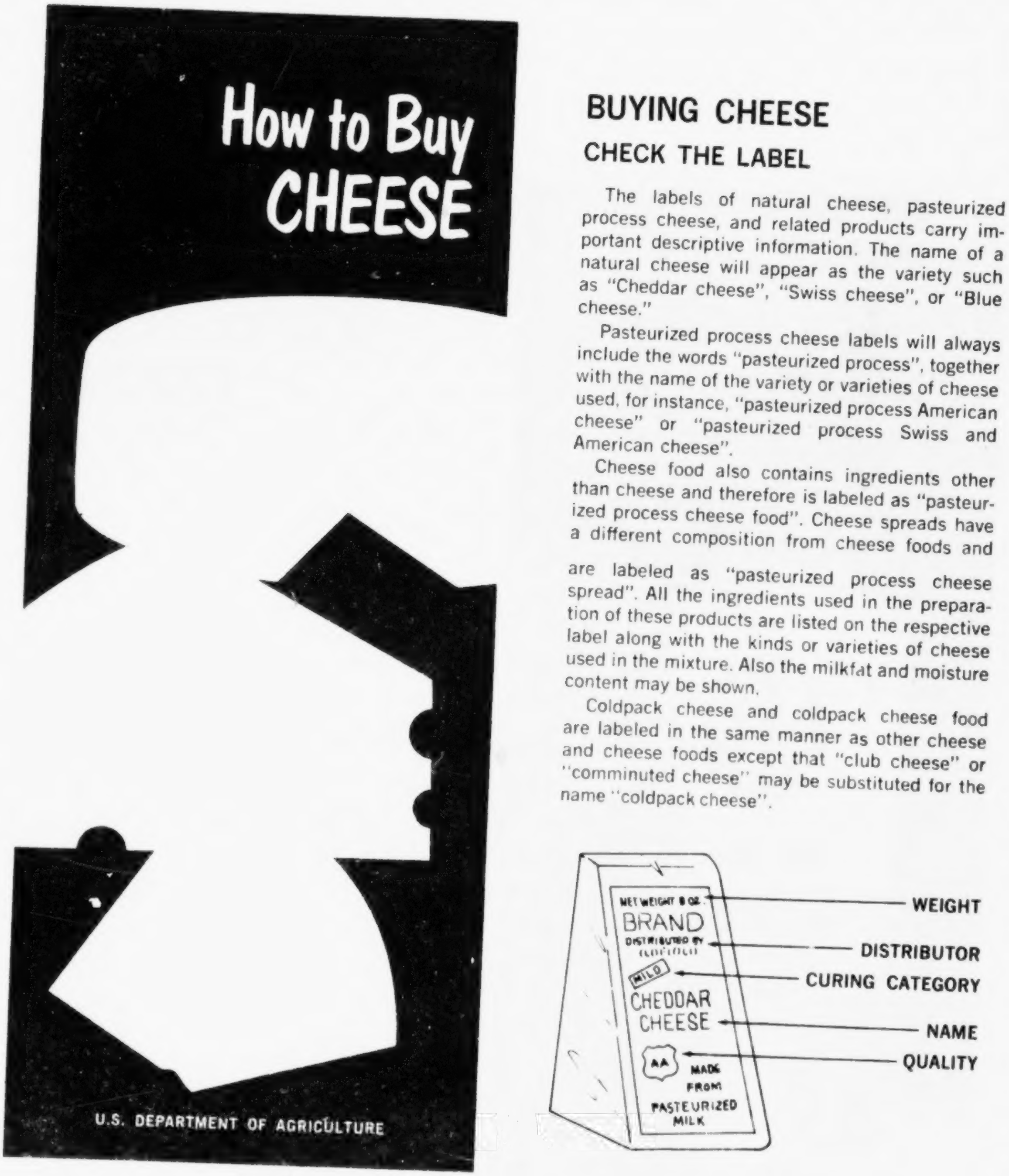


Figure 1-2
Commercial and Government Labeling Brochures



How to Buy CHEESE

U.S. DEPARTMENT OF AGRICULTURE

BUYING CHEESE

CHECK THE LABEL

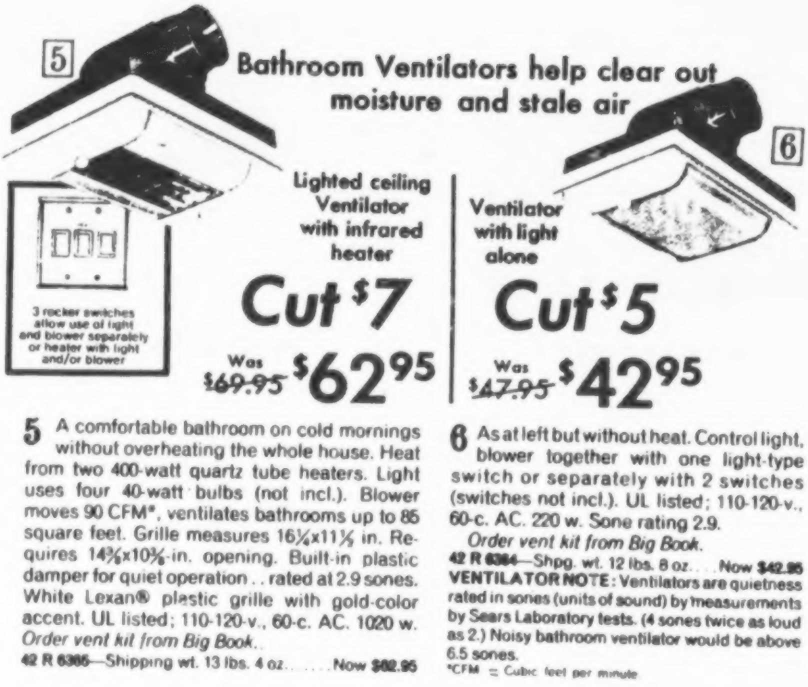
The labels of natural cheese, pasteurized process cheese, and related products carry important descriptive information. The name of a natural cheese will appear as the variety such as "Cheddar cheese", "Swiss cheese", or "Blue cheese."

Pasteurized process cheese labels will always include the words "pasteurized process", together with the name of the variety or varieties of cheese used, for instance, "pasteurized process American cheese" or "pasteurized process Swiss and American cheese".

Cheese food also contains ingredients other than cheese and therefore is labeled as "pasteurized process cheese food". Cheese spreads have a different composition from cheese foods and are labeled as "pasteurized process cheese spread". All the ingredients used in the preparation of these products are listed on the respective label along with the kinds or varieties of cheese used in the mixture. Also the milkfat and moisture content may be shown.

Coldpack cheese and coldpack cheese food are labeled in the same manner as other cheese and cheese foods except that "club cheese" or "comminuted cheese" may be substituted for the name "coldpack cheese".

Figure 1-3
Explanation of Cheese Label Contents



5

Bathroom Ventilators help clear out moisture and stale air

6

3 rocker switches allow use of light and blower separately or heater with light and/or blower

Lighted ceiling Ventilator with infrared heater

Cut $7

Was ~~$69.95~~ $62.95

Ventilator with light alone

Cut $5

Was ~~$47.95~~ $42.95

5 A comfortable bathroom on cold mornings without overheating the whole house. Heat from two 400-watt quartz tube heaters. Light uses four 40-watt bulbs (not incl.). Blower moves 90 CFM*, ventilates bathrooms up to 85 square feet. Grille measures 16¼x11½ in. Requires 14⅜x10⅜-in. opening. Built-in plastic damper for quiet operation . . rated at 2.9 sones. White Lexan® plastic grille with gold-color accent. UL listed; 110-120-v., 60-c. AC. 1020 w. *Order vent kit from Big Book.*

42 R 6365—Shipping wt. 13 lbs. 4 oz. . . . . . Now **$62.95**

6 As at left but without heat. Control light, blower together with one light-type switch or separately with 2 switches (switches not incl.). UL listed; 110-120-v., 60-c. AC. 220 w. Sone rating 2.9.

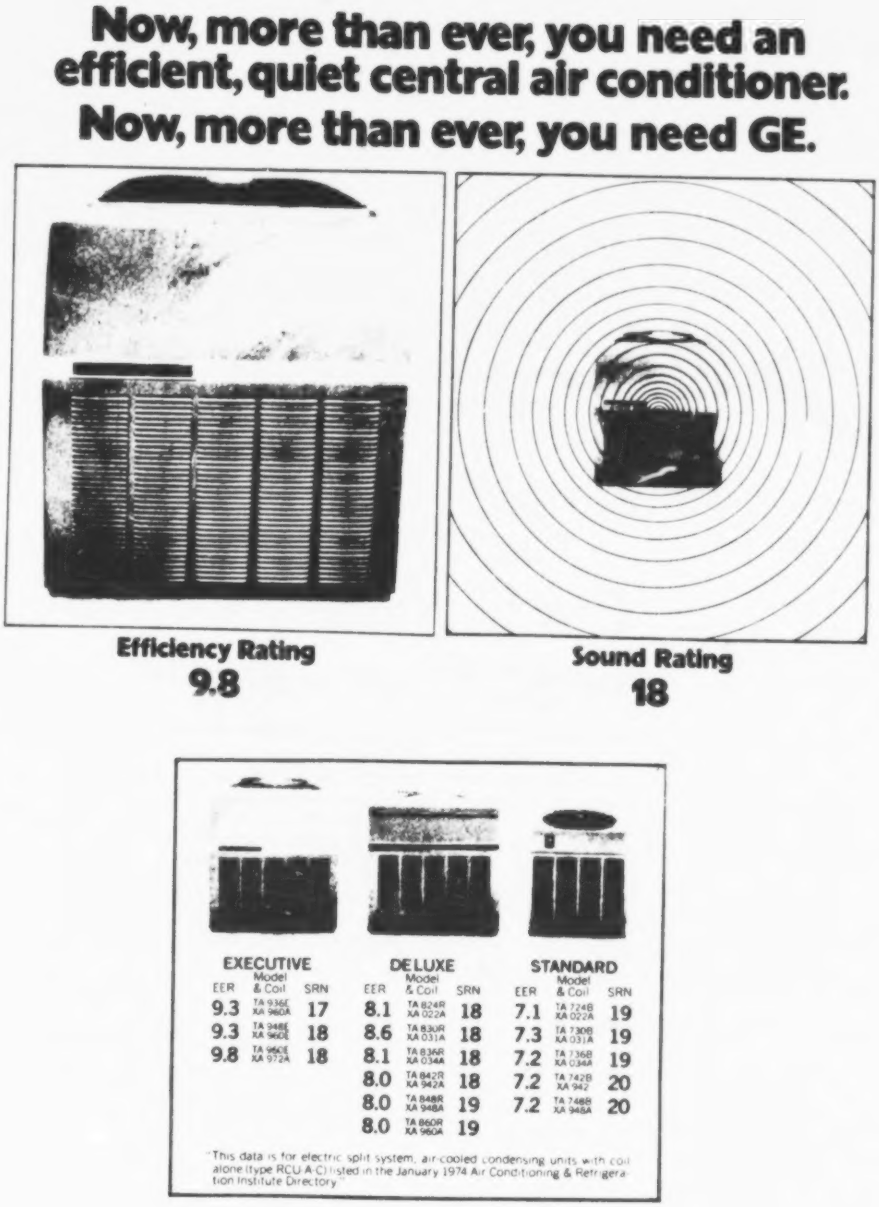
Order vent kit from Big Book.

42 R 6364—Shpg. wt. 12 lbs. 8 oz. . . . Now **$42.95**

VENTILATOR NOTE: Ventilators are quietness rated in sones (units of sound) by measurements by Sears Laboratory tests. (4 sones twice as loud as 2.) Noisy bathroom ventilator would be above 6.5 sones.

*CFM = Cubic feet per minute

Figure 1-4
Example of a Catalog Ad with Noise Rating



Now, more than ever, you need an efficient, quiet central air conditioner.
Now, more than ever, you need GE.

Efficiency Rating
9.8

Sound Rating
18

EXECUTIVE			DELUXE			STANDARD		
EER	Model & Coil	SRN	EER	Model & Coil	SRN	EER	Model & Coil	SRN
9.3	TA 936E XA 960A	17	8.1	TA 824R XA 022A	18	7.1	TA 724B XA 022A	19
9.3	TA 948E XA 960E	18	8.6	TA 830R XA 031A	18	7.3	TA 730B XA 031A	19
9.8	TA 960E XA 972A	18	8.1	TA 836R XA 034A	18	7.2	TA 736B XA 034A	19
			8.0	TA 842R XA 942A	18	7.2	TA 742B XA 942	20
			8.0	TA 848R XA 948A	19	7.2	TA 748B XA 948A	20
			8.0	TA 860R XA 960A	19			

"This data is for electric split system, air-cooled condensing units with coil alone (type RCU-A-C) listed in the January 1974 Air Conditioning & Refrigeration Institute Directory."

Figure 1-5
Advertisements for Air Conditioners

NOISE LABELING UNDER SECTION 8 OF THE NOISE CONTROL ACT

The Noise Control Act of 1972 devotes all of Section 8 and part of Section 10 to labeling. Section 8 is shown in Table 1-5. Table 1-6 is an excerpt from Section 10.

Table 1-5
Section 8 of the Noise Control Act of 1972
(Public Law 92-574) (Labeling)

(a) The Administrator shall by regulation designate any product (or class thereof) -

(1) which emits noise capable of adversely affecting the public health or welfare; or

(2) which is sold wholly or in part on the basis of its effectiveness in reducing noise.

(b) For each product (or class thereof) designated under subsection (a) the Administrator shall by regulation require that notice be given to the prospective user of the level of the noise the product emits, or of its effectiveness in reducing noise, as the case may be. Such regulations shall specify (1) whether such notice shall be affixed to the product or to the outside of its container, or to both, at the time of its sale to the ultimate purchaser or whether such notice shall be given to the prospective user in some other manner, (2) the form of the notice, and (3) the methods and units of measurement to be used. Sections 6(c) (2) shall apply to the prescribing of any regulation under this system.

(c) This section does not prevent any State or political subdivision thereof from regulating product labeling or information respecting products in any way not in conflict with regulations prescribed by the Administrator under this section.

Table 1-6
Section 10 of the Noise Control Act of 1972 (Public Law 92-574) (Labeling)

(a) Except as otherwise provided in subsection (b), the following acts or the causing thereof are prohibited:

.

.

.

(3) In the case of a manufacturer, to distribute in commerce any new product manufactured after the effective date of a regulation prescribed under Section 8(b) (requiring information respecting noise) which is applicable to such product, except in conformity with such regulation.

(4) The removal by any person of any notice affixed to a product or container pursuant to regulations prescribed under Section 8(b), prior to sale of the product to the ultimate purchaser.

In Table 1-7, the language of Section 8 is examined in more detail.

The information necessary to make the determination concerning adverse effects is available, in part, as contained in the following EPA publications: "Public Health and Welfare Criteria for Noise" Document No. 550/9-73-002, July 27, 1973 [1] and "Information on Levels of Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" Document No. 550/9-74-004, March, 1974 [2].

For example, as indicated in Note 2 (Table 1-7), a mass transit system will expose riders and spectators to noise. Home air conditioner noise can affect both the owner and his neighbors.

Table 1-7
Statutory Authority

SECTION 8(a) THE ADMINISTRATOR SHALL . . . DESIGNATE ANY PRODUCT[1] (OR CLASS THEREOF)

(1) WHICH EMITS NOISE CAPABLE OF ADVERSELY AFFECTING THE PUBLIC HEALTH OR WELFARE[2] . . ."

(2) OR WHICH IS SOLD WHOLLY OR IN PART[3] ON THE BASIS OF ITS EFFECTIVENESS IN REDUCING NOISE"

---

[1] "Shall . . . designate any" Note no discretionary authority, as in Section 6(a)(3) is provided.

[2] No distinction is made between "prospective users" and "spectators, bystanders".

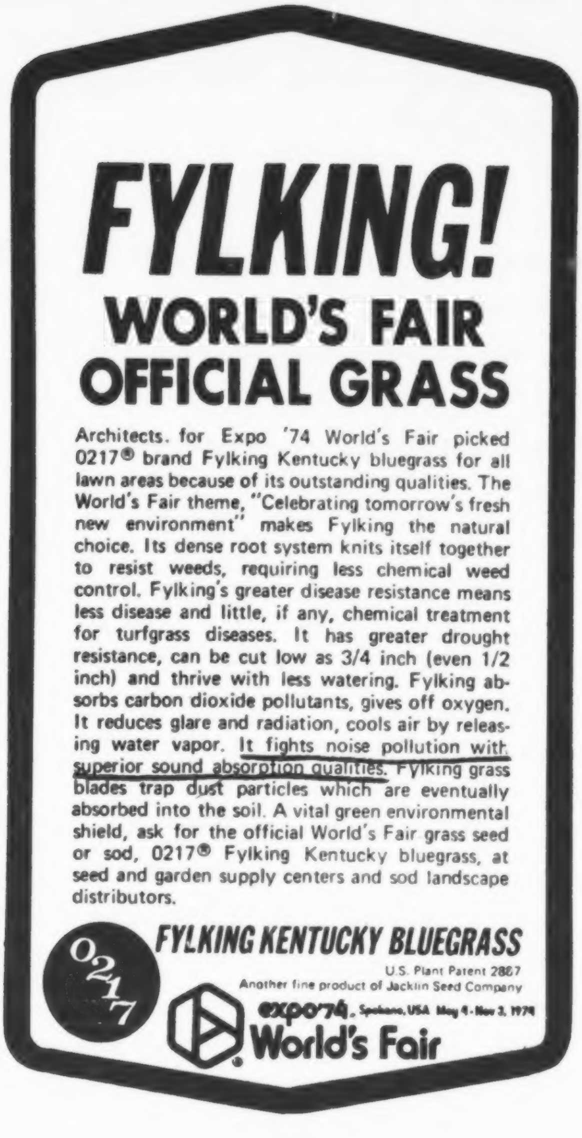
[3] All products sold explicitly for such use or with such use as a stated possibility.

Figure 1-6 is an example of advertisements for grass seed which incorporates a noise claim.

Table 1-8 contains an examination of Section 8(b) of the Statutory Authority.

As indicated in Note 6 (Table 1-8), the legislative history shows that various and sometimes more specific requirements were part of the several noise control bills introduced in the Congress in 1971.

As shown by Table 1-9, labeling means different things to different people. Most of the differences come from the different perception of labeling as seen in government, in industry, in the engineering department, or in the graphics or advertising department. Labeling is really all of those things.



FYLKING!

WORLD'S FAIR OFFICIAL GRASS

Architects. for Expo '74 World's Fair picked 0217® brand Fylking Kentucky bluegrass for all lawn areas because of its outstanding qualities. The World's Fair theme, "Celebrating tomorrow's fresh new environment" makes Fylking the natural choice. Its dense root system knits itself together to resist weeds, requiring less chemical weed control. Fylking's greater disease resistance means less disease and little, if any, chemical treatment for turfgrass diseases. It has greater drought resistance, can be cut low as 3/4 inch (even 1/2 inch) and thrive with less watering. Fylking absorbs carbon dioxide pollutants, gives off oxygen. It reduces glare and radiation, cools air by releasing water vapor. It fights noise pollution with superior sound absorption qualities. Fylking grass blades trap dust particles which are eventually absorbed into the soil. A vital green environmental shield, ask for the official World's Fair grass seed or sod, 0217® Fylking Kentucky bluegrass, at seed and garden supply centers and sod landscape distributors.

FYLKING KENTUCKY BLUEGRASS

U.S. Plant Patent 2887
Another fine product of Jacklin Seed Company

Figure 1-6
Advertisement Incorporating Noise Claim

Table 1-8
Additional Examination of Section 8 Authority

SECTION 8(b) REQUIRES NOTICE[4] TO THE PROSPECTIVE USER[5] OF LEVEL OF NOISE[6] . . . OR ITS EFFECTIVENESS IN REDUCING NOISE.

THE REGULATIONS MUST SPECIFY

(1) WHERE (LOCATION) - ON PRODUCT, ON CONTAINER AT TIME OF SALE TO ULTIMATE PURCHASER - OR IF NOTICE IS TO BE GIVEN TO THE USER IN ANOTHER WAY

(2) THE FORM

(3) THE METHOD OF MEASUREMENT AND THE UNITS OF MEASUREMENT

Table 1-9
Various Meanings of Term "Labeling"

LABELING CAN MEAN:

- THE WORDS/SYMBOL THAT PROVIDE THE IDENTITY FOR NOISE LABELING
- THE RATING ITSELF
- THE LABEL ON THE PRINCIPAL DISPLAY PANEL - AND WHAT IS ON THE INFORMATION (SECONDARY) PANEL
- THE TOTALITY OF THE INFORMATION REQUIRED UNDER A LABELING STATUTE

---

[4] Not necessarily a label

[5] This is not the "ultimate purchaser" defined in Section 3 (4)

[6] Not necessarily decibels

Unfortunately, however, the informative labeling such as is being discussed sometimes is lost in the midst of other labeling as demonstrated in Figure 1-7.

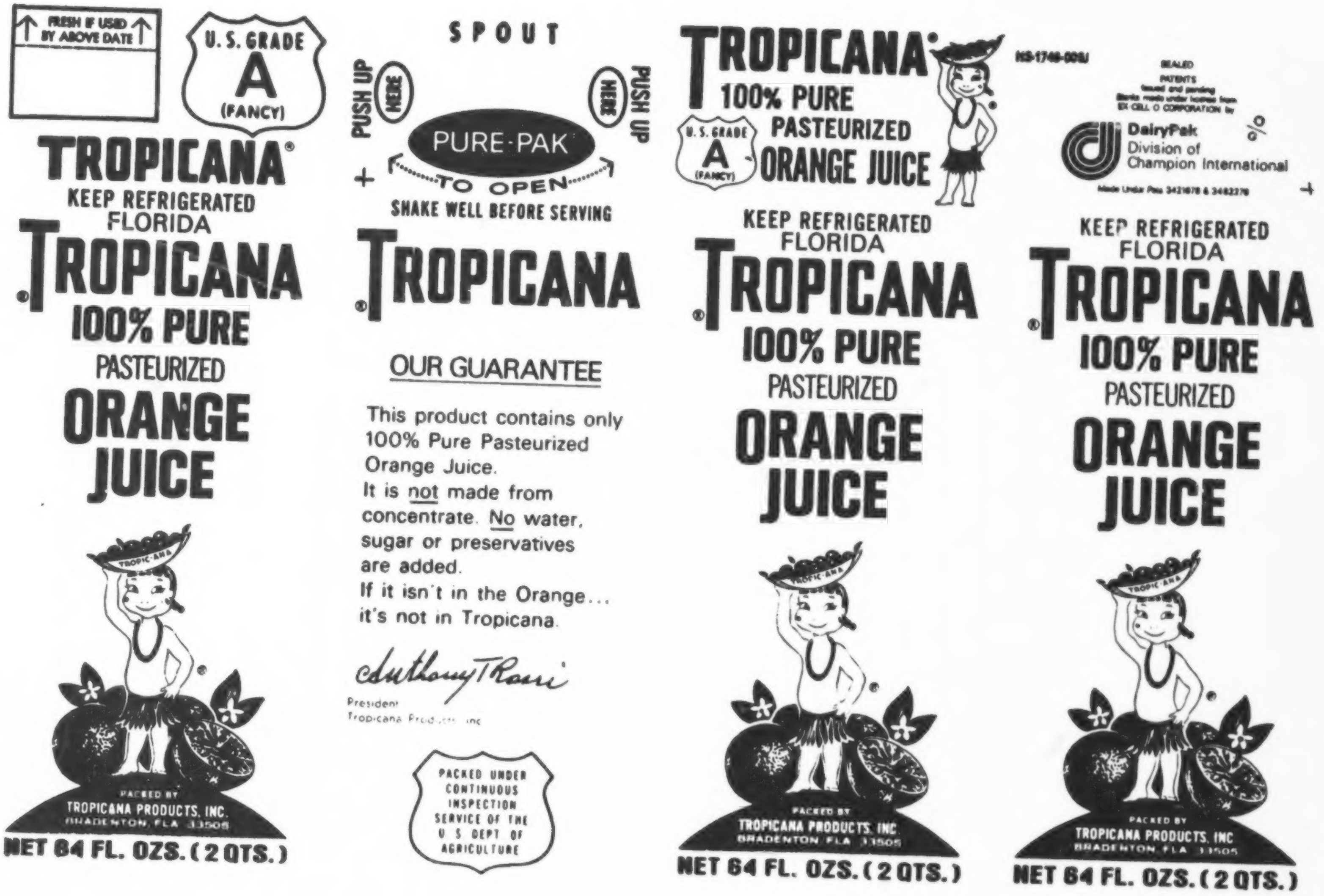
It can be concluded, as shown in Table 1-10, that, on the basis of investigations of both technical (acoustical) factors and graphics considerations, some basic development can be common to labels for noise reducers and noise producers. These common factors will be described in more detail below.

However, noise reducers do not appear to lend themselves to a common label grade, and the separation into a sound insulator and a sound absorber category may be necessary.

Table 1-10

Common Factors for Labels

1. CAN THERE BE A SINGLE "LABEL" FOR BOTH NOISE PRODUCERS AND NOISE REDUCERS?
   Not Completely - But Many Common Elements Are Possible.
2. CAN THERE BE A SINGLE "LABEL" FOR ALL NOISE PRODUCERS?
   Appears Possible.
3. CAN THERE BE A SINGLE "LABEL" FOR ALL NOISE REDUCERS?
   No - Two Major Categories Appear Possible.



OUR GUARANTEE

This product contains only 100% Pure Pasteurized Orange Juice.
It is not made from concentrate. No water, sugar or preservatives are added.
If it isn't in the Orange... it's not in Tropicana.

Anthony T Rossi
President
Tropicana Products, Inc

Figure 1-7
Example of Labeling Confusion

MAJOR CHARACTERISTICS OF LABELS

Section 8 identifies three major characteristics which labels need to specify. They are:

1. Content
2. Physical Characteristics
3. Location

Each of these will be examined in turn.

Label Content

The content of the label is of primary importance. However, the content of the label is restricted by two considerations: the limits on the statutory authority and the physical space limitations for messages of readable size and layout. Table 1-11 lists some of the more important informational elements that should be considered for inclusion on a noise label. First, the noise label must identify itself. This must be so standardized that it is a highly recognizable symbol. It can be a word or two - STOP has become an international traffic sign symbol, and is recognized in the U.N. Convention on road signing for use in non-English-speaking countries. To gain this near-instant recognizability, it must always appear in the same type-face and the same relationship - both relative size and position - on the label. The words NOISE RATING or NR can become a symbol for a noise producing product and Noise Reduction Rating or NRR might likewise become a symbol for a noise reducing product.

The rating comes next. The discussion to follow later in this section will indicate the way any valid but highly technical acoustic measure can be transformed into a simple rating for the layperson.

Since space is at a premium, the next item should tell where information essential to getting and keeping the proper product noise performance can be found, and also the availability of additional information for the technically sophisticated buyer.

The manufacturer's name and the product's identification may also be of high value on the noise label.

Table 1-11

Content of Labels

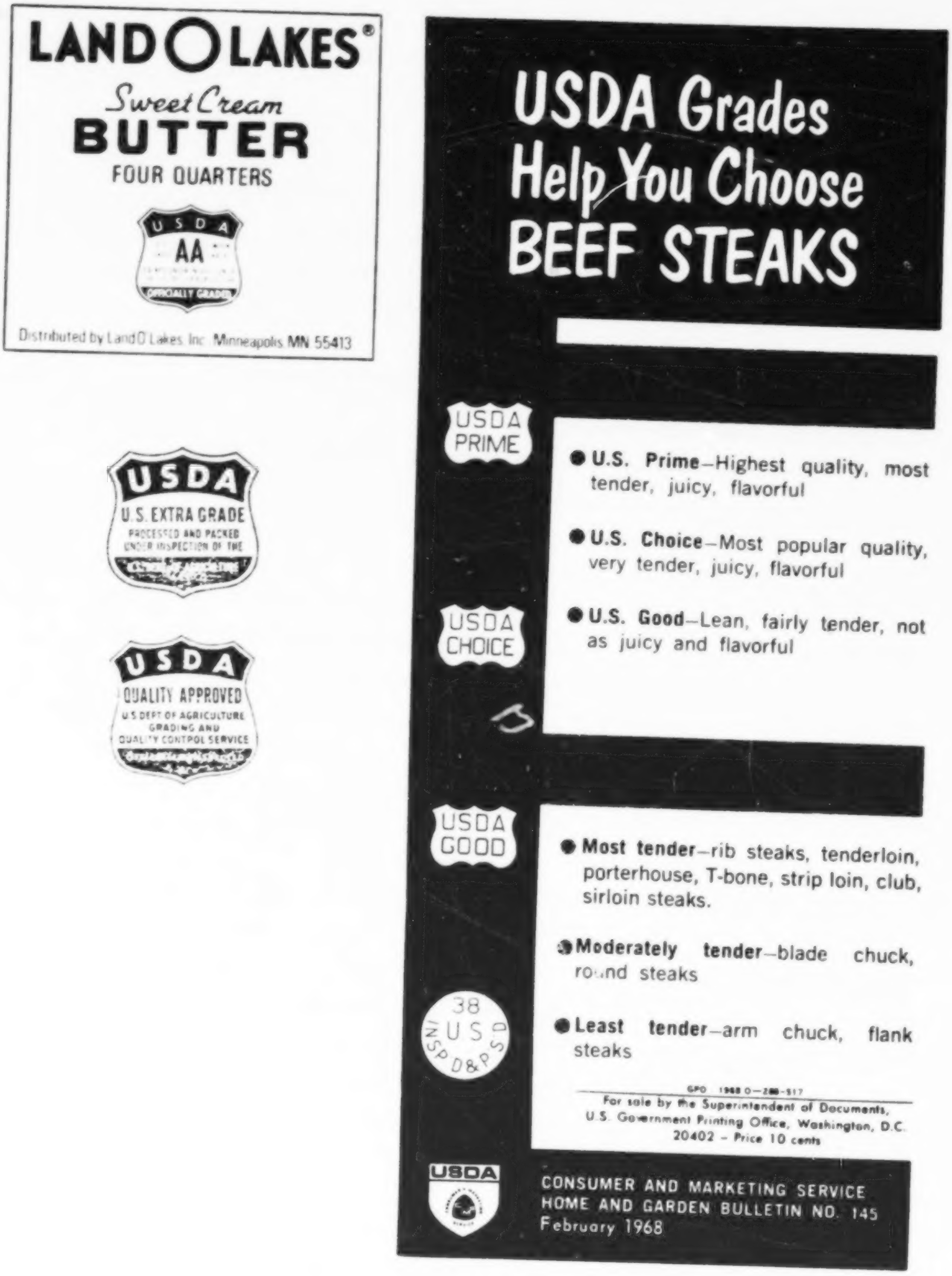
1. HEADING - NOISE INFO SYMBOL
2. NOTICE OF PERFORMANCE
    - NOISE RATING
    - NOISE REDUCTION RATING
3. REFERENCE TO PRODUCT INSTRUCTIONS, SPECIFICATIONS
    - USE
    - REPAIR, MAINTENANCE
    - DETAILED TECHNICAL SPECIFICATIONS
4. PROHIBITED ACTS
5. MANUFACTURER'S NAME (NOT TRADEMARK), ADDRESS
6. PRODUCT IDENTIFICATION: MODEL, BATCH
7. GOVERNMENTAL AGENCY OR U.S. GOVERNMENT SYMBOL

A prohibition against removing the label and an Agency seal could be at the bottom. This authority symbol must be carefully chosen, for it plays an important role in the reader's mind. Consumer research has shown that the public responds well to "seals of approval" and other official symbols. As mentioned earlier, it is vital that the public see this label's information as trustworthy and impartially determined.

Physical Characteristics

As demonstrated in Figure 1-8, some seals have become well known to the public through frequent exposure. Even though all these seals represent the same governmental agency and are all based on a shield shape, there are significant appearance variations that can create doubt as to which is the official one. The EPA seal does not use a shield, and contains several symbolic elements - none of which has strong connotations of governmental authority.

In the highly competitive visual world of corporate identity and product trademark advertising, many governmental agency seals fare poorly. In the following excerpt from a U.S. Government publication, the authors note that official seals are often filled with obscure phrases and symbols.



USDA Grades Help You Choose BEEF STEAKS

- **U.S. Prime**—Highest quality, most tender, juicy, flavorful
- **U.S. Choice**—Most popular quality, very tender, juicy, flavorful
- **U.S. Good**—Lean, fairly tender, not as juicy and flavorful

- **Most tender**—rib steaks, tenderloin, porterhouse, T-bone, strip loin, club, sirloin steaks.
- **Moderately tender**—blade chuck, round steaks
- **Least tender**—arm chuck, flank steaks

GPO 1968 O—288-517
For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 - Price 10 cents

CONSUMER AND MARKETING SERVICE
HOME AND GARDEN BULLETIN NO. 145
February 1968

Figure 1-8
USDA Seals

It is interesting to read what the U.S. Department of Health, Education, and Welfare has to say about seals.[3] (The new seal appears in Figure 1-9.)

> "Government papers quite commonly have seals of various descriptions because one associates seals with important institutions. But a seal is very rarely read by anyone."
>
> "Here we have taken the HEW seal which appears on all letterheads, and we have blown it up to large size. The first thing we note is that the words on the seal are exactly the same as those on the letterhead. Then we find a phrase in Latin, which few of us can read. Then there is the familiar eagle, the caduceus (a serpent on a rod), which has been the medical symbol for a long time. It is not clear exactly what the chain means, but it must have something to do with welfare or education. The symbolism is not clear, but it doesn't matter, because the only real function of the seal is to suggest Government power and status."

Appearance variations in supposedly identical seals and obscure graphic elements are bad enough when only one governmental agency is involved. Having various symbols for different agencies may be even more confusing. In some ways, therefore, it would be advantageous for there to be one Federal symbol that can achieve and keep quick recognizability, even when restricted to a small size. This would not prevent the name of the agency from appearing as well. However, no such inter-agency symbol exists at present.

Ideally, a symbol should have only one meaning, not two. For example, it was found that the Skull and Cross-Bones "Poison" label actually attracted children, who associated the symbol with pirate games and TV cartoons, rather than sickness.

That's why the "Mr. Yuk" symbol shown in Figure 1-10 was developed; children (and adults) understand it as conveying the idea of bad taste or repulsion. It is noteworthy that this symbol (and its sickly green color) have been copyrighted. This was done precisely so that it could not be legally used for other than its intended purpose, for example, in a game or toy for children.

The information conveyed by the label itself is not the whole story.

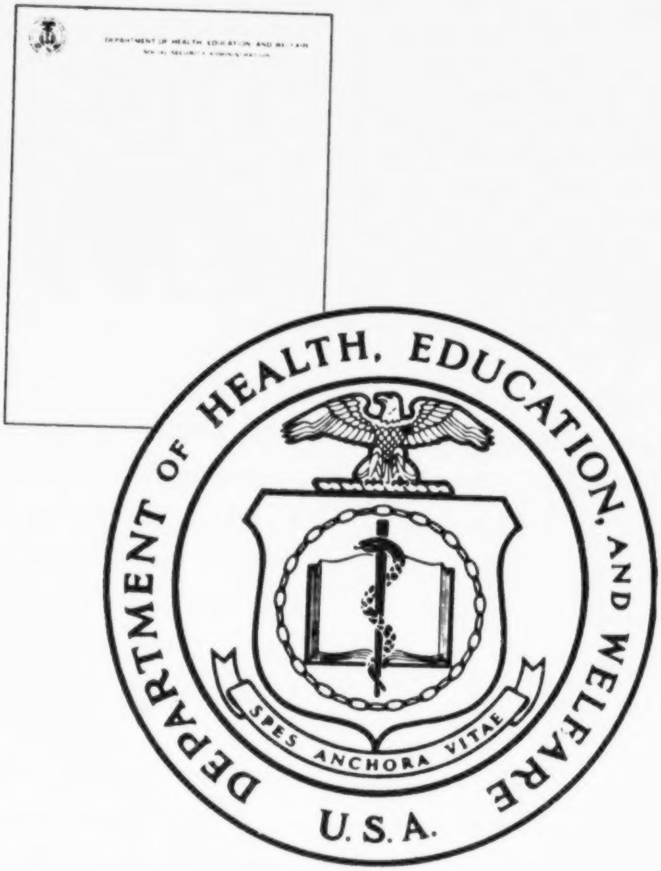

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
SPES ANCHORA VITAE
U.S.A.

Figure 1-9
Seal of The U.S. Department of Health, Education and Welfare

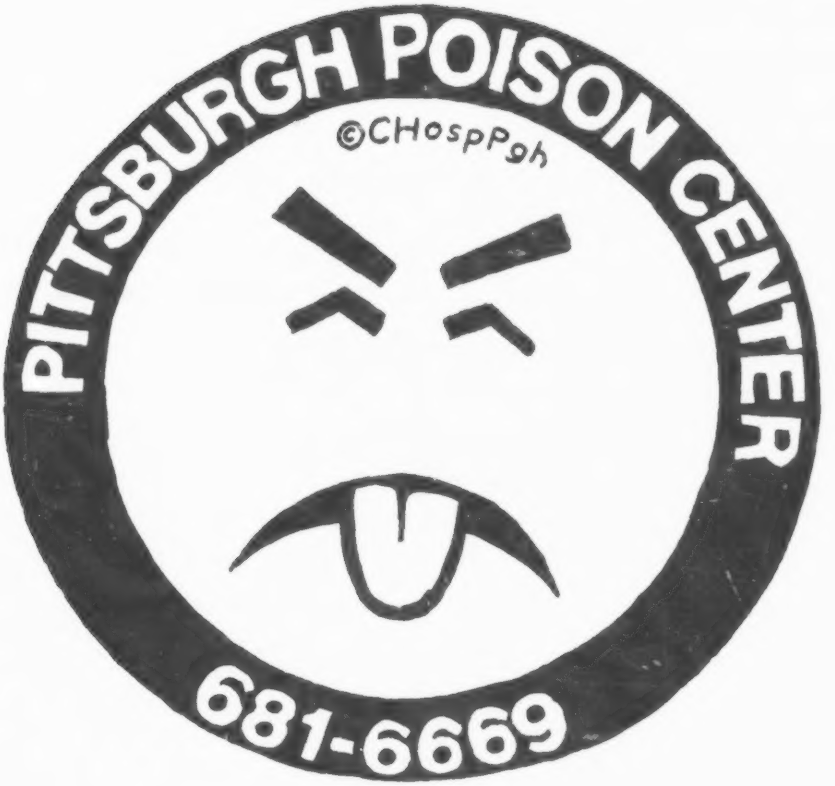


Figure 1-10
Mr. Yuk Warning Label

As specified in Table 1-12, additional instructions may need to be provided to the consumer, perhaps in separate booklets, instruction sheets, etc.

Education of the consumer about the meanings of the various ratings is particularly important if he or she is to understand the full message of the label. This could be done on a secondary panel on the container, on a separate leaflet packed inside, or in the instruction book.

The matter of consumer education about the ratings is vital. In theory, it may be accomplished by point-of-sale displays, advertising, or booklets. One problem is how readily this additional information reaches the consumer, and how likely it is to be understood to the extent it will be used for purchase or use decisions.

Sales organizations may have little stake in facilitating consumer access to information that is not directly helpful in boosting their products.

Table 1-12

Requirements for Additional Instructions

ALSO SPECIFIED BY REGULATION:

REQUIREMENTS FOR ADDITIONAL INSTRUCTIONS. THESE CAN COVER USE, REPAIR, CONSUMER EDUCATION ABOUT RATING.

- USE OF PRODUCT
- REPAIR AND MAINTENANCE OF PRODUCT
- CONSUMER EDUCATION ABOUT THE RATING
- FURTHER TECHNICAL INFORMATION

THIS MAY NOT BE PART OF THE PRIMARY DISPLAY

By Federal regulation, auto manufacturers must furnish braking, passing distance, and tire load capacity information to buyers and prospective purchasers. This information must be available to take from dealer's showrooms. Without exception, manufacturers do not combine this with their full-color brochures, but present it in a separate, plain brochure filled with data for different models and different optional equipment. An example is shown on the left of Figure 1-11. Neither industry nor government is happy with this outcome, and there appear to be few buyers who have found this brochure, and fewer still who found it understandable and useful in making purchasing decisions.

In contrast, the fuel economy brochure on the right of Figure 1-11 has received wide readership with good reader comprehension. Cars of many makes are compared and the meaning of the test results is explained in simple terms. Dealers whose cars do well often have these brochures prominently displayed in their showrooms or use this information in their media presentations.

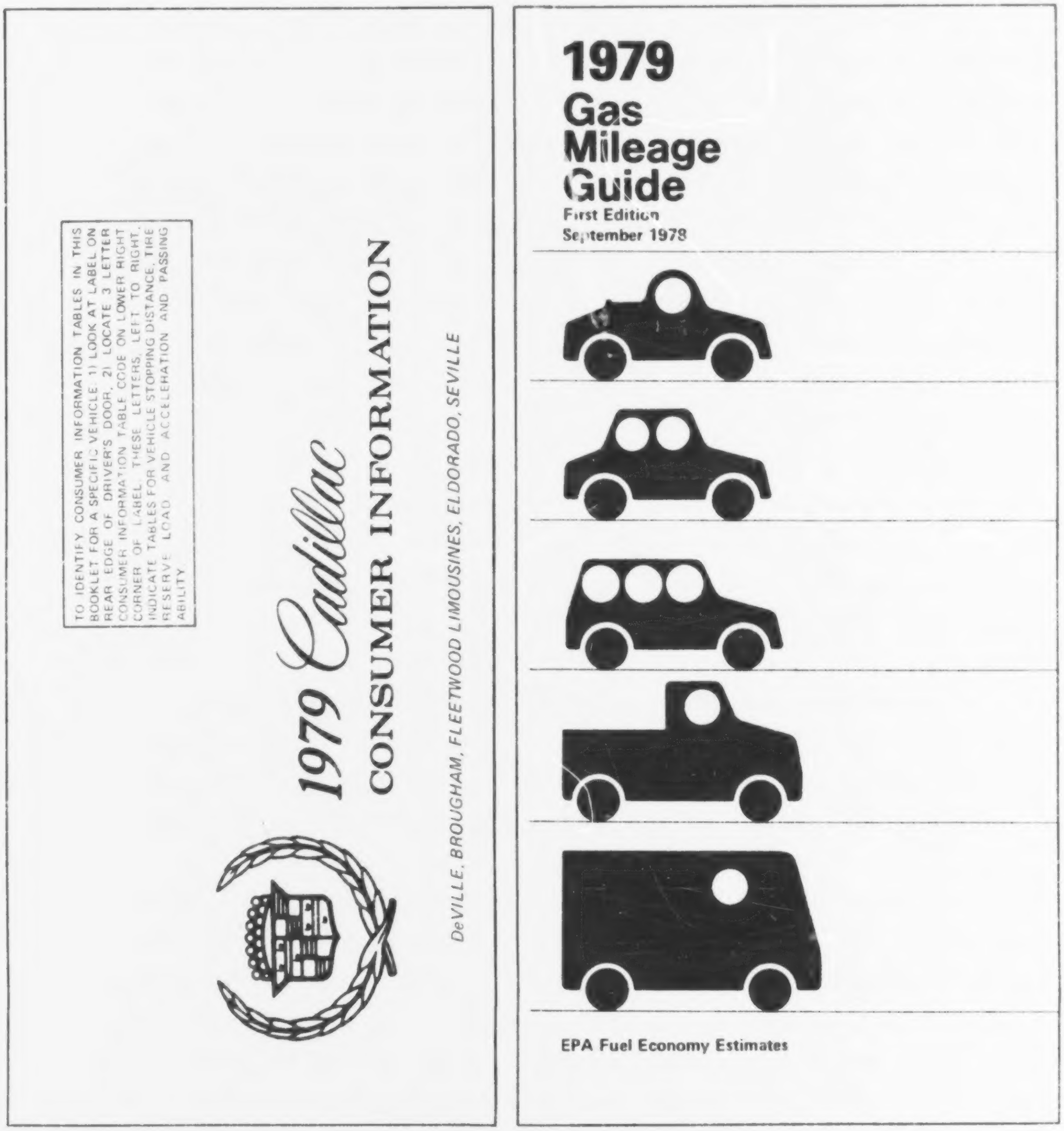
Unfortunately, as demonstrated in Figure 1-12, some consumer education literature and displays, although colorful and potentially informative, are so complex that most consumers are not likely to take the trouble to read them, let alone understand them.

The educational purpose in Figure 1-12 is largely lost. This explanation of USDA grading of fruit is almost incomprehensible at first. Even after the small footnote at lower left is found, the diagram is still unclear.

The basic physical characteristics of a label are listed in Table 1-13. As mentioned previously, the physical characteristics of the label greatly affect its overall utility.

A later discussion to follow will present more about label design, and making proper use of these characteristics.

Regulation development must consider the need to specify physical characteristics, in order to ensure both readability and permanence when exposed to the use environment.



TO IDENTIFY CONSUMER INFORMATION TABLES IN THIS BOOKLET FOR A SPECIFIC VEHICLE 1) LOOK AT LABEL ON REAR EDGE OF DRIVER'S DOOR, 2) LOCATE 3 LETTER CONSUMER INFORMATION TABLE CODE ON LOWER RIGHT CORNER OF LABEL. THESE LETTERS, LEFT TO RIGHT, INDICATE TABLES FOR VEHICLE STOPPING DISTANCE, TIRE RESERVE LOAD AND ACCELERATION AND PASSING ABILITY

1979 *Cadillac*

CONSUMER INFORMATION

DeVILLE, BROUGHAM, FLEETWOOD LIMOUSINES, ELDORADO, SEVILLE

1979

Gas Mileage Guide

First Edition

September 1978

EPA Fuel Economy Estimates

Figure 1-11
Typical Automobile Brochures

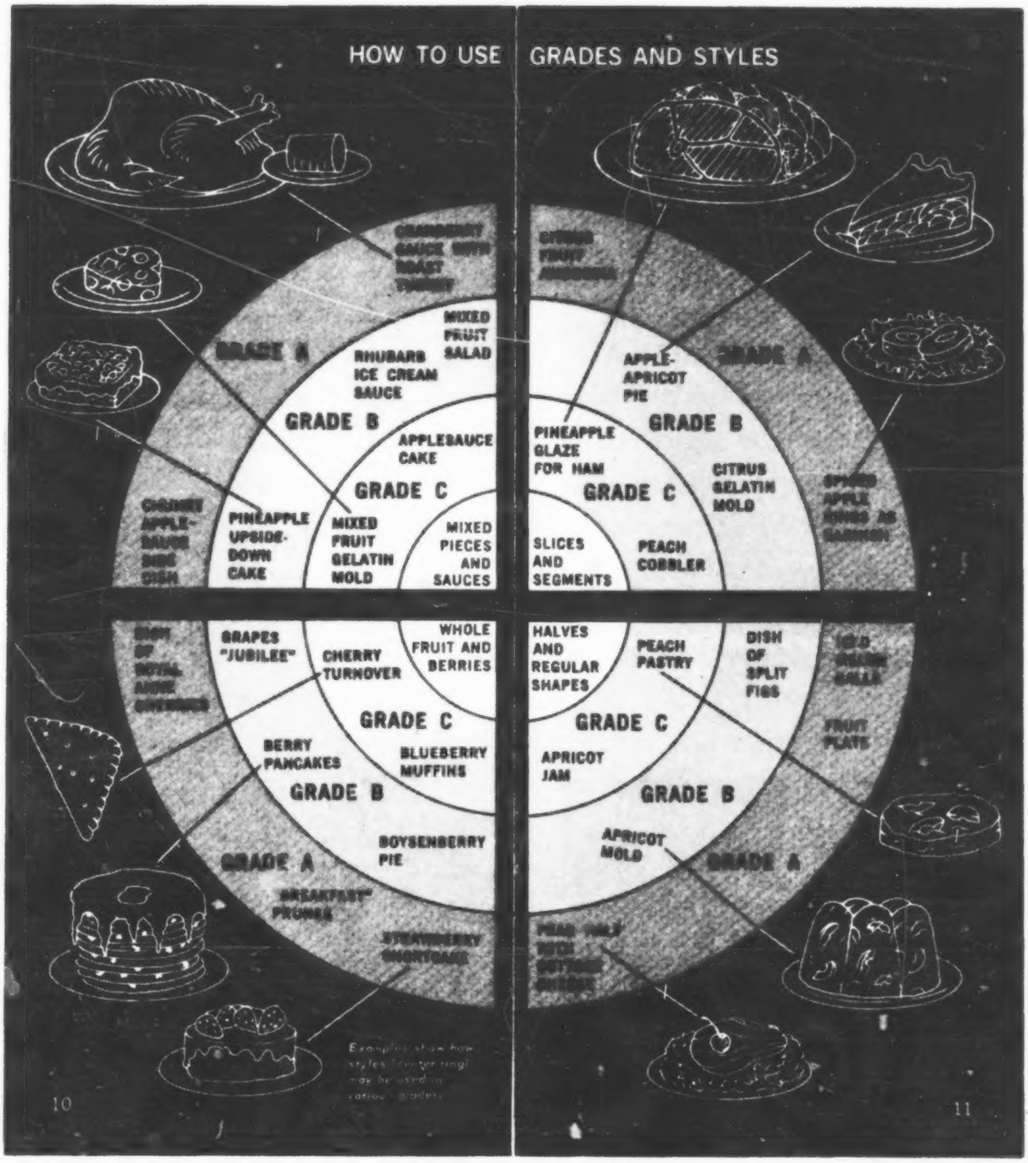


Figure 1-12
Example of Complexity in Consumer Display

Table 1-13

Physical Characteristics of a Label

PHYSICAL CHARACTERISTICS OF A LABEL:

- LABEL MATERIAL
- METHOD OF ATTACHMENT
- SHAPE AND BORDER
- LETTERING AND SIZE
- COLOR AND FINISH

Label Location

In addition to the physical characteristics of a label, one needs to consider where it should be placed. There exists a number of alternatives (Table 1-14), all with a number of advantages and disadvantages, depending in part on the type and size of product, and how it is advertised, bought, and sold or offered for use.

The location for the primary label and for the additional information required by regulation will probably need to be considered for each product or product category. In some cases, more than one of the locations listed may be used.

Table 1-14

Location of Labels

1. FRONT OF LABELS
2. HANG TAG ON UNPACKAGED PRODUCT
3. DISPLAY AT RETAIL
4. PRODUCT
5. PACKAGE STUFFER
6. HANDOUTS
7. ADVERTISING
8. OTHER

RATING SCHEMES

Mentioned earlier was the necessity of reducing the results of whatever valid technical test is chosen - on the basis of its relationship to the informational needs and the accuracy and repeatability of the procedure - to an easy to understand rating. The principles of this process, presented in Figure 1-13 for noise, have been applied to ratings for many familiar products; for example, butter grades and tire mileage. Although this is usually thought of as a single, and perhaps simple, process called grading, it is not.

We start with a measure derived from a particular test; this test might yield a purely physical measurement with results in physical quantities like miles, decibels, or % butterfat. The technical basis might be a physiological or psychological effect, with results like the dose for a 50% lethal effect, articulation index of X%, or the fraction of the population that would suffer a given amount of hearing damage. In each case the result is a number on a continuous scale. Not all different values that can be measured are significant, so the next step is to divide this continuous scale into intervals that imply significant and noticeable differences. For tire mileage, this might be 1,000 to 3,000 miles; for ratings of noise producers, this might be 3 or 5 decibels.

Up to this point the rating has retained whatever measurement units are inherent in the technical basis (miles, decibels of equivalent sound level, etc.). This absolute measure can be avoided by use of an established reference point, such as 30,000 miles for tire life. Thus a 15,000 mile tire would become 50 (%) and a 45,000 mile tire would be graded 150 (%). The reader would see that 150 meant three times the life of the 50 grade, and the manufacturer would not be making a statement that implied a specific tread life under all conditions of use. Finally, one may assign codes to the various categories, although this latter element is fraught with considerable difficulties. Is a 90 better than a 60, if this is a quietness rating? If an A is assigned to the best product today, what is done when a better one is invented five years from now?

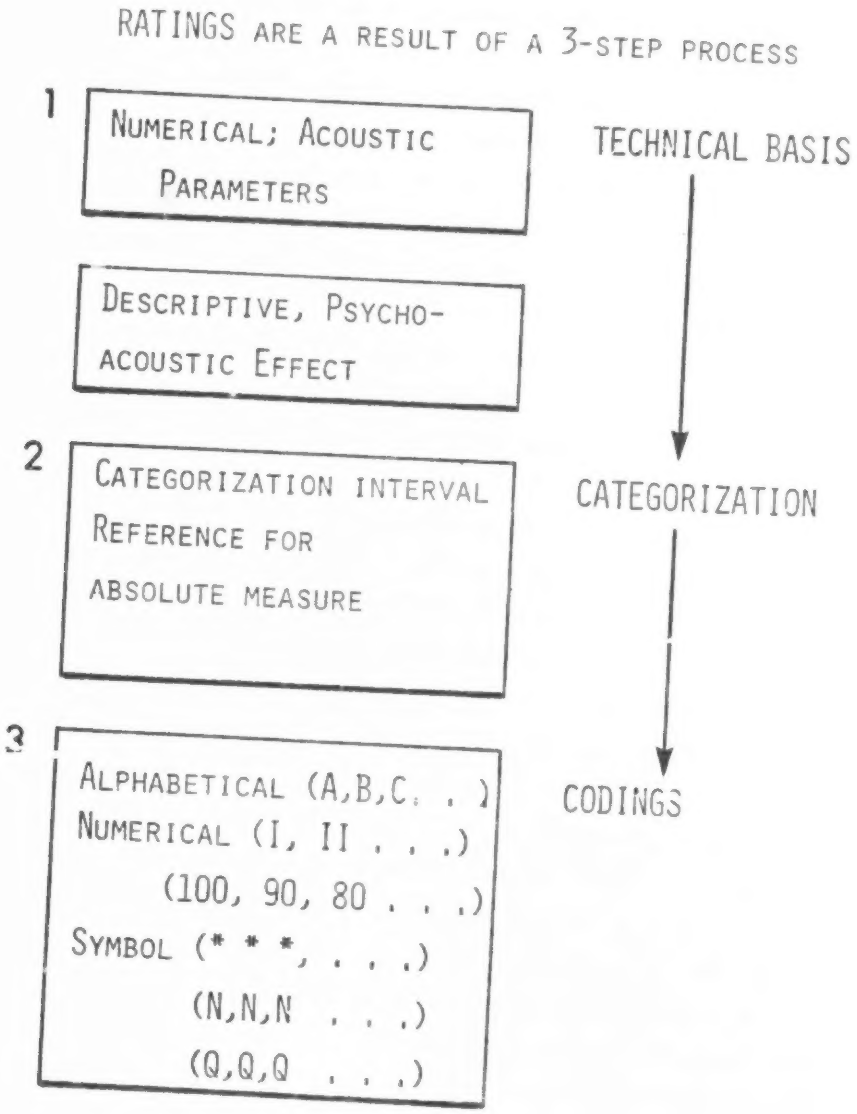

RATINGS ARE A RESULT OF A 3-STEP PROCESS
1
NUMERICAL; ACOUSTIC PARAMETERS
DESCRIPTIVE, PSYCHO-ACOUSTIC EFFECT
2
CATEGORIZATION INTERVAL REFERENCE FOR ABSOLUTE MEASURE
3
ALPHABETICAL (A,B,C. .)
NUMERICAL (I, II . . .)
(100, 90, 80 . . .)
SYMBOL (* * *, . . .)
(N,N,N . . .)
(Q,Q,Q . . .)
TECHNICAL BASIS
CATEGORIZATION
CODINGS

Figure 1-13
Rating Process

Table 1-15 presents a summary of a possible scheme for rating noise producers in a variety of environments.

Simple numerical coding is used, to make comparisons easy. Qualitative explanations of these numerical values are shown, to make these values meaningful to the lay consumer.

Table 1-15

Example of Explanatory Part of Noise Label

NOISE RATING	EFFECT
115 AND ABOVE	USE OF STANDARD HEARING PROTECTION INADEQUATE TO PROTECT HEARING OF OPERATOR
110-115	DAMAGING TO HEARING OF PERSONS EXPOSED TO NOISE WHO ARE IN THE SAME (TYPICAL) ROOM OR WITHIN 450 FEET OF THE DEVICE OUTDOORS
85-100	SAME EXCEPT 100 FEET
70-85	SAME EXCEPT 25 FEET
60-70	INTERFERES WITH NORMAL CONVERSATION OUTDOORS WHEN DEVICE IS WITHIN 4 FEET AND INDOORS WHEN DEVICE IS IN ADJACENT ROOM
50-60	INTERFERES WITH NORMAL CONVERSATION INDOORS WHEN DEVICE IS WITHIN SAME (TYPICAL) ROOM
50 AND BELOW	(See note below)

Note: Determination necessary as to the capability of products to adversely affect public health or welfare.

Section 3: Noise Labeling - Graphics

SECTION 3: NOISE LABELING - GRAPHICS

The following discussion contains one possible set of solutions, illustrated in Figures 1-14, 1-15, and 1-16, to the problem of designing a label system which will alert and inform purchasers about the characteristics of noise generators and noise attenuators. It is an attempt to present the types of considerations necessary in the development of the graphical requirements associated with product noise labeling.

The primary objective in such development is to take the concepts of noise rating discussed above, and to develop the graphics for a labeling system which would be easily seen, identified, and comprehended.

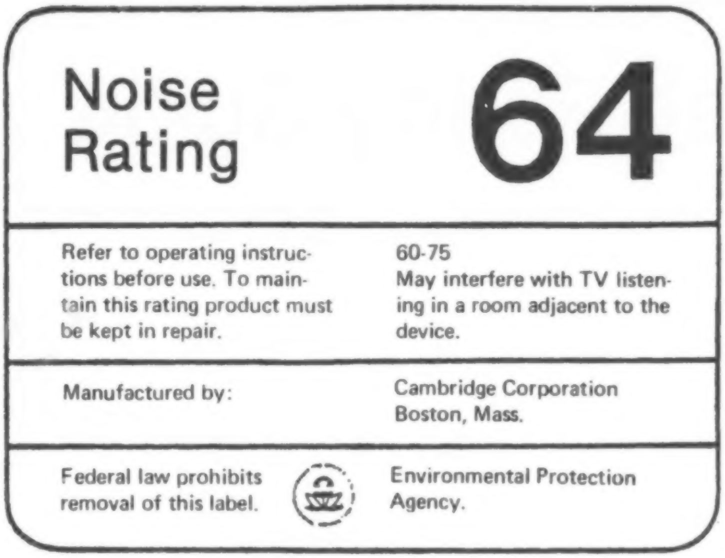
BACKGROUND

We are entering an era of environmental and safety labeling. Some labels warn us of hazards, from the familiar radiation symbol and skull and crossbones to the less ostentatious Surgeon General's statement on a package of cigarettes.

Other relatively familiar labels inform us - the various shields of the department of Agriculture, for example, are intended to guide the consumer when purchasing meats, cheeses, vegetables and other foods.

Some labels are new and complex, providing the public with much needed information about things like emission controls, gasoline consumption, tire safety and energy consumption.

All of these labels, as well as other useful information which may appear on products or packages, must compete with expensive, extensively researched, and well-designed marketing oriented graphics, and with the whole mass of visual marketing information used in the media.



Noise Rating **64**

Refer to operating instructions before use. To maintain this rating product must be kept in repair.

60-75
May interfere with TV listening in a room adjacent to the device.

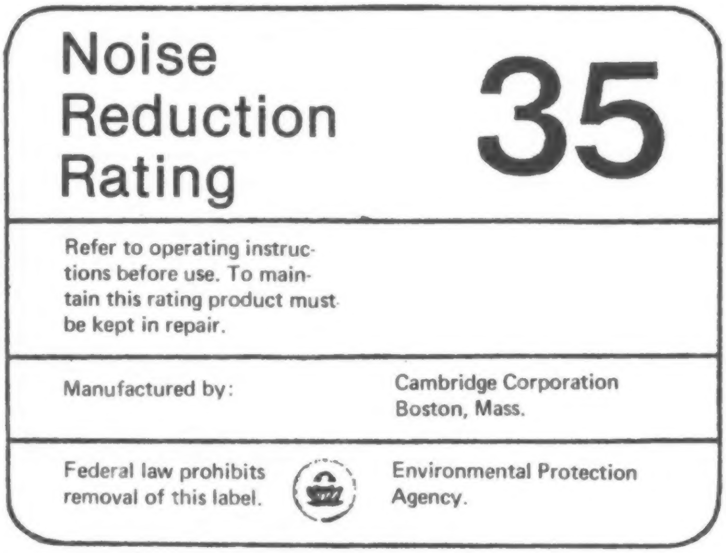
Manufactured by:

Cambridge Corporation
Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Figure 1-14
Noise Rating Label



Noise Reduction Rating **35**

Refer to operating instructions before use. To maintain this rating product must be kept in repair.

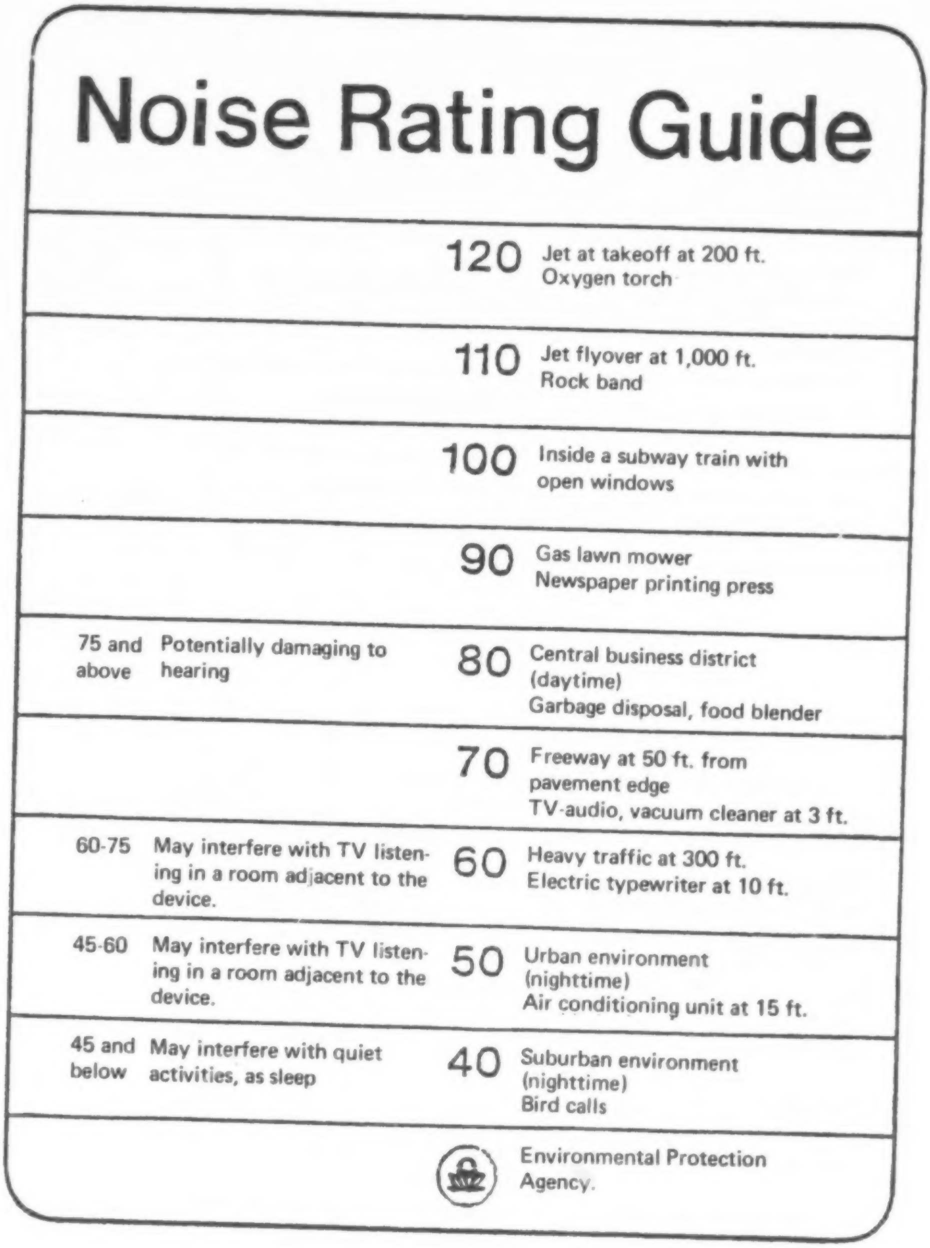
Manufactured by:

Cambridge Corporation
Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Figure 1-15
Noise Reduction Rating Label



Noise Rating Guide

		120	Jet at takeoff at 200 ft. Oxygen torch
		110	Jet flyover at 1,000 ft. Rock band
		100	Inside a subway train with open windows
		90	Gas lawn mower Newspaper printing press
75 and above	Potentially damaging to hearing	80	Central business district (daytime) Garbage disposal, food blender
		70	Freeway at 50 ft. from pavement edge TV-audio, vacuum cleaner at 3 ft.
60-75	May interfere with TV listening in a room adjacent to the device.	60	Heavy traffic at 300 ft. Electric typewriter at 10 ft.
45-60	May interfere with TV listening in a room adjacent to the device.	50	Urban environment (nighttime) Air conditioning unit at 15 ft.
45 and below	May interfere with quiet activities, as sleep	40	Suburban environment (nighttime) Bird calls

Environmental Protection Agency.

Figure 1-16
Noise Rating Guide

DESIGN CRITERIA

The first problem then, is to design a label system which will stand out, overcoming visual competition. This problem is particularly difficult in the face of the amount of information and graphics now on packages, and in consideration of the difficulties that might be faced in causing packagers to significantly alter their designs. The system, therefore, should be realistic and practical.

The next problem to be considered is the amount of information which must be displayed on the label.

To begin with, the noise label would actually serve two separate but related functions. For noise generating devices, they would have to announce a "noise rating". For noise attenuators, a "noise reduction rating" must be presented. For consistency, both these functions should be accommodated in a single graphic system.

A side issue, but nevertheless an important one, is the question of whether members of the general public need more information than sophisticated commercial buyers. Although many purchasing agents or plant safety managers might have a better understanding of noise problems than the average shopper, a range of differing considerations would make a general assumption invalid. Thus, we concluded that the labeling system should assume almost total ignorance on the part of every purchaser.

CONTENT

The first piece of information that the label system must deal with is the announcement of whether the label deals with noise generation or attenuation.

The next element of concern is the specific rating for the item in question.

The question of what kind of rating system to use is, of course, the major element of the label. Let us assume that one can use numerical ratings, ranging from 40 to 120, for noise generators, and 0 to 40 for noise attenuators. The numbers would be clearly displayed, and with the proper explanation, may provide an effective means for product comparison on the basis of its specific noise characteristic.

The explanation would include the numbers used in the system, and an explanation of the meaning of each which could be understood by the layperson. For example, the label might explain that "100 is the level of noise inside a subway train". It may be true that many people have never been inside a subway train; however, they are able to recognize that the associated noise is loud.

Including the rating explanation may not be a problem on large packages, or on large devices, but it can be a problem with medium size and smaller devices and packages. (For example, there are noise attenuators which are basically ear plugs, packaged in containers befitting their size.) Accepting the fact that 6 point type - which is one-twelfth inches high - is about the smallest readable type, it would be impossible to get all the information we have described on very small packages.

As a result of varying product sizes, consideration must be given, on a product specific basis, as to the extent of the explanation on the primary label and the possible inclusion of a separate "Noise Rating Guide."

Several other items which may merit inclusion on a basic label surface are (1) reference to the instruction sheet or manual that came with the product, explaining that the rating assigned to the product was based on it being in proper operating condition, as expressed in the instruction material, (2) the name and the location of the manufacturing plant and (3) an EPA Identification, and a statement prohibiting removal of the label before sale.

DESIGN CHARACTERISTICS

The first design characteristic to consider is shape - the information will have to be presented on some kind of visual field. The shield, for example, is commonly used to project an image of "official" communication. The problem is, however, that because the shield is so over-used, it has lost much of its effectiveness as a distinctive form. Stars or other odd shapes come to mind as the kinds of visual formats which might attract attention. Such shapes are very inefficient for containing information with the usable area being only a portion of the total area occupied by the shape.

In line with this, the label should be visually separated from the product or package. It should have a high degree of contrast so that it will be easily seen, and not be confused with the manufacturers advertising messages or other information on packages.

The size of the label, therefore, is relevant to both the information to be presented, and to the product or package on which it will appear.

Placement is another key consideration. The design not only deals with the labels themselves, but also the likely location of the label on the package or product to insure that it will be readily seen.

Next, there is the matter of color. Color can be an effective communications tool if used properly. It can help to establish contrast and visibility, and in certain applications, to communicate in itself. A red traffic light, for example, communicates mainly through color, and is very effective.

Typography is an important factor in any design, but it has particular importance in this situation. Whatever is done must make use of space most effectively while communicating as clearly as possible. Type selection, therefore, has to be very precise.

All of these criteria, as well as the problems outlined previously, play key roles in the development of a label's design.

DESIGN DESCRIPTION

In many ways, we live in a rectangular world. The rectangle is the most efficient shape there is in terms of information handling. It can accommodate the maximum amount of type in the minimum amount of space.

To add a slight note of distinctiveness, to save frayed corners, and to make handling easier, corners are generally rounded off.

To emphasize the shape and make the entire label a more self-contained image, a narrow border around the label can be added.

The next step is to place the necessary information on the field that has been created. The following discussion relates to the development of the noise labels shown in Figures 1-14 and 1-15.

In designing the heading for a label, the question which has to be answered is "how do you most effectively call attention to the purpose of the label?" Instead of using gimmicks of any kind, the answer is to announce the label's purpose as clearly and simply as possible.

The terms "Noise Rating" for noise generators and "Noise Reduction Rating" for noise attenuators, are simple terms. Through the use of Helvetica typeface, they are extremely clear. It is a very contemporary sans-serif typestyle which has come to be accepted as a standard of clarity around the world.

The next major piece of information - perhaps the most important on the entire label - is the rating itself. This should be displayed in very large type - again using the same clear and easy to read typeface.

Continuing with the design of the noise labels in Figures 1-14 and 1-15, rules were used to separate the different informational elements. These rules add to the boldness of the overall image and, at the same time, alert the reader to the fact that there are separate messages to be read.

After the rating number, there appears a brief statement explaining the meaning of the rating appearing on the label. The reference to the operating instructions may be the next piece of information.

The same standard typeface should be used to identify the manufacturer and his location and probably a product identification. The use of trademarks here should be avoided, since they only add visual clutter to the label and create design problems.

The EPA symbol is used along with the agency's identification. It should be noted that the use of the symbol is not included as a major component of the label because it might be misleading. Although it is very pertinent to the natural environment, it does not telegraph anything relating to noise or noise control, and could therefore distract the reader from the principal message.

Again using the standard typeface, the prohibition not to remove the label prior to purchase is placed near the EPA Identification to add to the authority of the prohibition.

NOISE RATING GUIDE

The explanation of the rating system might appear in a separate "Noise Rating Guide" which may be required as a separate sheet packed with the product, or as an inclusion in the instruction manual. The various ratings should be prominently displayed, and their meanings and effects closely related to them, so that there is no confusion as to what explanations relate to what ratings. Copies of the noise rating guide might also be designed for display at retail sales outlets.

LABEL TYPES

The label can be of several different types dependent on whether it is to be affixed directly to the product or its packaging and whether it is to be permanent or temporary (to be removed after purchase). The "stick-on" label is probably the most common form, followed closely by the "hang tag" type. Labels can also be directly printed on the product packaging or molded into the product itself, provided that the design considerations discussed above are incorporated.

The label might appear in either white with black or black with white type, depending on which format provides the highest measure of contrast with the basic package.

For noise generators which produce uncomfortably or dangerously high levels of noise, the label could be required in red and white instead of black and white.

PLACEMENT

On packages, the noise rating label should appear on the main (primary) display panel or panels.

To help make sure that the label is not lost on the panel, it might be required that it be lined up with at least one edge of the panel and that there be a distance of no less than 1/8th of the label's height between the label and the edge of the panel.

Specifications on the size of the label with regard to the overall panel size, should be determined on a product specific basis.

EDUCATION

The system's ultimate success, as would be true of any design, depends in great measure on the educational materials and publicity which surround its introduction and use.

Through posters, folders, advertisements, TV commercials and other public awareness programs, the public can be alerted to the use of noise ratings.

Section 4: Rating Schemes for Noise Producers

SECTION 4: RATING SCHEMES FOR NOISE PRODUCERS

Certain restraints limit the range of choice for a rating scheme to be used in connection with a Federal noise labeling program. Some of these restraints are determined by the acoustical nature of the kinds of equipment likely to be labeled; others may depend on the noise ratings already selected by other groups, such as the national or international standards organizations or equipment manufacturers' associations.

This section considers (1) the nature of the noise sources likely to come under Federal noise labeling regulations; (2) how sound behaves in different kinds of space according to accepted textbook acoustical theory, (3) typical user distances and label-noise-rating categories and (4) some possibilities for a rating scheme.

ACOUSTIC CHARACTERISTICS OF PRODUCTS

We begin by looking at the typical noise spectra of the kinds of products that might be labeled. In particular, we are interested in which octave bands of frequency, for each type of product, dominate the A-weighted sound level. We next consider the acoustical characteristics of the kind of space in which the product is typically used, whether outdoors or indoors, and if indoors, whether it is an acoustically "live" or "dead" room.

It turns out that these matters have a strong bearing both on the selection of a noise rating scheme for labeling equipment and on the procedure for measuring product noise.

A recent study by EPA evaluated various alternative strategies for noise abatement [4]. A number of appliances and other household products were assessed in terms of the noise exposure for people who use the product (primary exposure) and for others in nearby areas (secondary exposure). On the basis of their effective $L_{eq(24)}$ certain products surfaced as potential candidates for labeling. These products are listed in Table 1-16 together with the octave band of frequency that dominates the A-weighted sound level, the kind of space in which the product is generally used, and the type of acoustical radiation that dominates the noise of the device.

It can be seen that, partly because there is strong discrimination against low frequencies in the A-weighting but also because the noise of many of these products is intrinsically strong in the high frequencies, the A-weighted sound levels for these appliances are determined largely by frequencies of 500 Hz or higher. The products are about equally divided according to the kind of space in which they are typically used, and no one kind of acoustical radiation is in the majority; all must be considered. (Monopole sources tend to behave one way; dipoles and quadrupoles, another.)

HOW SOUND BEHAVES

Sound Power Level vs Sound Pressure Level

Two basic properties of the noise from a source have been proposed for use in rating schemes: sound power level and sound pressure level. Since the use of each has advantages and disadvantages, the acoustic community is sharply divided as to which is most appropriate for product labeling.

The advantage of sound power level as a noise rating for a source, according to the "sound power" proponents, is that it is fixed and unchangeable. It is said that, if the sound power level for an appliance is known, the sound pressure level at any location can be calculated without much difficulty. However, this "fixed and unchangeable" claim is valid only under certain limited conditions.

Table 1-16
Noise Characteristics of Indoor Household Products

Product	Dominant Octave Band in A-weighted Sound Level	Where Used*	Type of Source+
Humidifier	500 Hz	D	D
Floor Fan	500 Hz	D	Q
Dehumidifier	1000 Hz	L	D
Window Fan	500 Hz	D	Q
Air Conditioner	250-2000 Hz	D	D
Toilet	1000 Hz	L	M
Dishwasher	500 Hz	L	M
Vacuum Cleaner	2000 Hz	D	D
Food Blender	2000-4000 Hz	L	M
Electric Shaver	4000 Hz	L	M
Food Disposal	2000-4000 Hz	L	M
Home Shop Tools	2000 Hz	L	M,D

---

*L = Live room (A = 30 to 70 sabines): bath, kitchen or workshop;
D = Dead room (A = 100 to 400 sabines); living room or bedrooms.
+M = monopole (or simple) source; D = dipole, Q = quadrupole.

Note: The octave-band noise spectra for average examples of these products are given in Appendix A (of Part I of this document), along with the same spectra to which the A-weighting has been applied, in order to show which octave band dominates the A-level.[5]

The disadvantage of sound power level as a noise rating is that the human ear does not respond to sound power, but rather to sound pressure. It is possible, for example, to make up a table of the effects of noise on people in terms of sound pressure (or sound pressure level), but not in terms of sound power. The reason is that, although the sound power of a source may be constant, the effect of the noise on people depends on how close they are to the source.* Near the source, the sound pressure is high and the effect of the noise may be severe; as the distance from the source increases, the sound pressure decreases and any adverse effects are diminished; in fact, at great distances the sound will not be audible at all.

The principle advantage of sound pressure for rating purposes is the direct relation this quantity bears to the human effects of the noise. The disadvantage is that it is not a fixed quantity; it depends on such factors as product geometry, use environment, and distance from the product. As an example, one manufacturer may rate his product in terms of the sound pressure level at a distance of 3 ft, and another manufacturer might rate his equally noisy product with the sound pressure level at 4 ft and claim a better noise rating.

A possible solution is to report the sound pressure level at a standard reference distance from the source, preferably a typical user distance. The selection of a typical user distance for different kinds of products, however, is currently a matter of considerable dispute among noise standards groups. The various arguments that figure in this dispute are the background against which the choice of a rating scheme for labeling must be made.

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*Similarly, although the wattage of a light bulb may be fixed, the brightness (which our eyes respond to) is greater closer to the bulb than far away.

Unfortunately, without a certain amount of technical understanding about the behavior of sound sources, seriously wrong choices might be made. The following discussion presents the essential technical points to be considered.

RELATION BETWEEN SOUND POWER AND SOUND PRESSURE IN VARIOUS SITUATIONS

Sound Outdoors

Sound power refers to the rate of generating acoustic energy - i.e., the total amount of acoustical energy radiated by the source per second. It is measured in watts. Sound power level (L_W) is the same quantity expressed in decibels* (dB) with respect to the standard reference power of 10^{-12} watts.

$$L_W = 10 \log_{10} \frac{W}{W_0} = 10 \log_{10} \frac{W}{10^{-12}} = 10 \log_{10} + 120 \qquad (1\text{-}1)$$

where W is the sound power of a source in watts, and L_W is the corresponding sound power level in dB re 10^{-12} watts. Doubling the sound power increases both the sound power level and the sound pressure level by 3 dB (see below).

The sound power accounts for all the sound energy leaving the source in all directions. If we imagine the source as suspended in free space, the same amount of sound power would pass through a 1-ft (imaginary) sphere surrounding the source as through a 10-ft sphere. The power per unit area, however, would be less for the larger sphere because the same amount of sound energy is "spread thinner" over the greater surface area of the larger sphere. The larger the sphere (i.e., the farther away from the source), the thinner the total energy must be spread. This process accounts for the decrease of sound pressure (which is what the ear responds to) with increasing distance from the sound source. Sound pressure is measured as a force per unit area, usually in newtons per square meter (N/sq m). Sound pressure level is the same quantity expressed in dB but referenced to the standard quantity of 20 N/sq m:

---

*The decibel scale is a logarithmic scale that compresses the enormous range of sound power and sound pressure values that occur in the environment into a more conveniently manageable range. The reference quantity should always be stated to avoid misunderstanding.

$$L_p = 10 \log_{10} \frac{p2}{p0} = 10 \log_{10} \frac{p2}{20} = 20 \log_{10} p - 26, \qquad (1\text{-}2)$$

where p is the sound pressure at a certain location in N/sq m and L_p is the corresponding sound pressure level in dB re 20 N/sq m. Doubling the sound pressure increases both the sound power level and the sound pressure level by 6 dB.

Sound Source Out in Space

In free space (for practical purposes this means outdoors, away from reflecting surfaces), sound pressure level and sound power level are related [6] as shown by line A of Figure 1-17. Line A corresponds to the equation

$$P^2_{(r)} = (Wz) \frac{Q}{4\ r^2}, \qquad (1\text{-}3)$$

where W is the sound power of the source in watts, z is a quantity called the characteristic acoustic impedance of the air ($400^{N\text{-}sec/m^3}$) Q represents the directivity of the source (1 for a point source, 3 for a dipole in the axial direction), and r is the distance in feet from the center of the sound source (assumed to be small, essentially a point). The decibel equivalent of Eq. 1-3 is

$$L_p = L_W + 10 \log_{10} \frac{Q}{4\ r^2} + 10, \qquad (1\text{-}4)$$

where L_p is the sound pressure level in dB re 20 N/m^2 and L_W is the sound power level in dB re 10^{-12} watts. The sound source is assumed to produce a sound power of 0.01 watts, corresponding (see Eq. 1-1) to a sound power level of 100 dB re 10^{-12} watts. Note that the sound pressure level decreases at the rate of 6 dB for each doubling of distance from the center of the source.

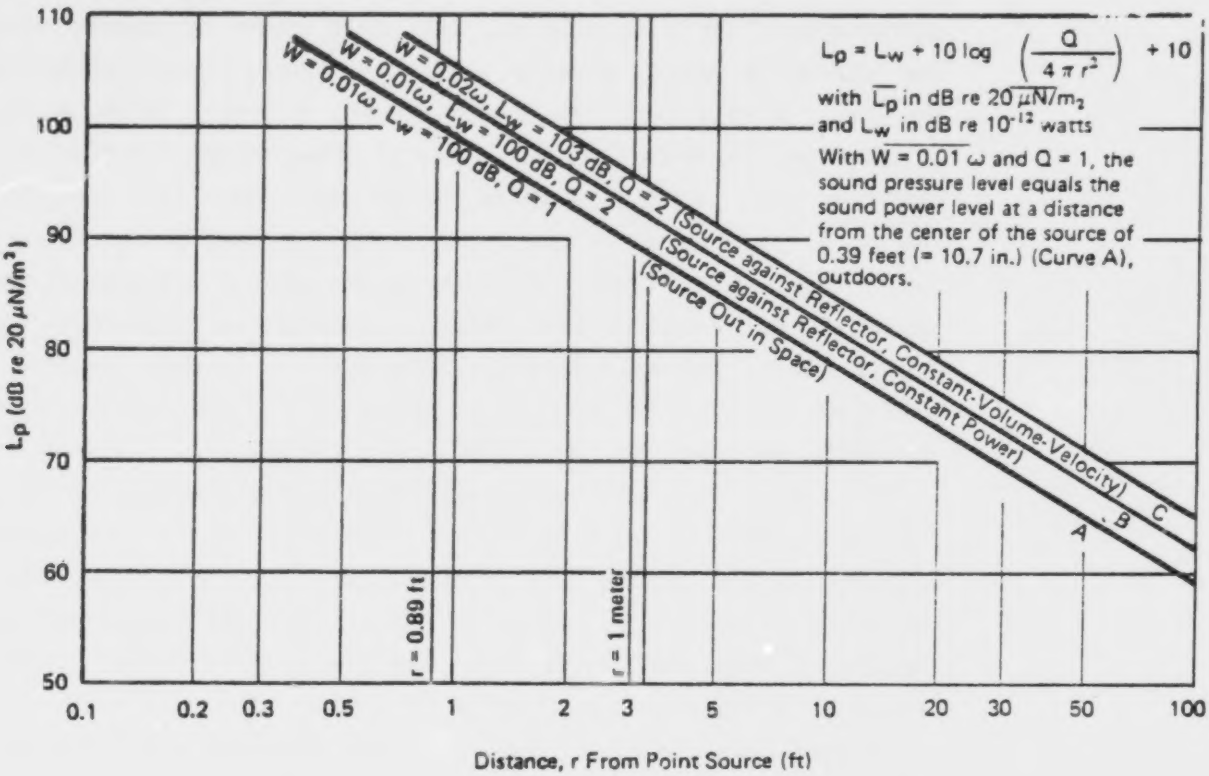

Figure 1-17
Behavior of Sound Outdoors

Sound Source Against a Reflecting Surface

Suppose the source were resting on the hard ground (or against a reflecting surface), instead of up in the air, and were still radiating an amount of sound energy W = 0.01 watts. The radiated energy would be spread over only a hemisphere instead of an entire sphere. This change in directivity of the source increases the value of Q to 2 and doubles the value of p^2 (Eq. 1-3), corresponding to a 3-dB increase in sound pressure level (Eq. 1-4). This behavior is shown by Line B in Figure 1-17. The sound pressure level again drops off at 6 dB per doubling of distance.

In fact, the sound energy radiated by real sound sources is actually changed by the presence of a nearby reflecting surface, such as the ground [7,8]. Many real-life sources behave like "constant volume-velocity sources" (meaning that the motion of the vibrating surface of the equipment is unaffected by the surrounding); for such sources, the sound power is doubled when the source is moved directly against a large, rigid reflecting surface. In this case, the source and its reflected image exactly coincide and the energy of the source is added to the energy of its reflected image, exactly in phase, so the sound power is 0.02 watts. Therefore, in addition to the 3-dB increase in sound pressure level due to the changed directivity of the source when placed against the ground, there is another 3-dB increase, because the presence of the ground doubles the power output. This behavior is shown by Line C in Figure 1-17; L_p in this case is 6 dB higher at all distances than with the source "out in space".*

If the source were moved away from the reflecting surface, the source and its image would not coincide and their two energy components would combine less effectively, with a time lag. When the source is more than about a sound wavelength away, the reflecting surface has little effect on the radiated power. This is generally referred to as the "far field."

Other types of sound sources (some kinds of fans, for example), react to the presence of a nearby reflecting surface with a decrease of output [9]; this change could effectively cancel the increase due to the directionality of the sound from the source.

In general, then, it is clear that the sound power level is not "fixed and unchangeable".

Sound Indoors

o Sound Source Out in Space

Sound from a source out in the center of a room behaves, in the region very close to the source, just as it behaves outdoors. The room boundaries are so far away that they do not influence the local sound behavior. As the observation points move away from the source, the sound pressure level decreases, just as it does outdoors, at 6 dB per doubling of distance.

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*An even greater change, both in source directivity (+6 dB) and power output (+6 dB), occurs when the source is moved into the right-angle corner between the ground and a large wall, and still a greater change (+9 dB in both cases), if it is moved into a trihedral corner (right-angle intersection of three planes). Here, we confine our discussion to a single plane reflecting surface.

Indoors, however, the sound energy from the source is confined by the boundaries of the room; if there were no sound absorptive material at all in the room, the sound energy would continue to accumulate indefinitely, leading to higher and higher sound pressure levels. In fact, however, some sound absorption is always present, and the sound pressure builds up only to the point where as much energy is being lost to the sound absorptive room boundaries as is being supplied by the source. The more sound absorption in the room, the lower the built-up sound pressure level.

The behavior of sound indoors, thus, is different from outdoors. Near the source (the so-called "direct field"), the behavior is like outdoors; the sound pressure level is determined by the sound power of the source, the directionality of the source, and the distance of the observer from the source. The sound pressure level decreases with increasing distance from the source (at 6 dB per double distance), until it equals the level of the built-up sound confined in the room. Beyond that "equalpoint", the sound pressure level is no longer determined by the direct field, which continues to decrease with increasing distance.

Instead, in the region beyond the equal-point (the so-called "reverberant field"), the sound pressure level is more or less the same everywhere; it is due to the accumulated confined energy and is determined only by the sound power of the source and the amount of sound absorptive material in the room, not by the distance from the source or the directionality of the sound from the source.

This two-region behavior is illustrated in Figure 1-18 for three rooms containing different amounts of sound absorption.*

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*Sound absorption is measured in sabines: the symbol is A. One sabine is roughly equivalent to 1 sq ft of open window through which incident sound is assumed to pass and be lost to the room. A 4-sq ft patch of material that absorbs just half the incident sound energy is said to have a sound absorption coefficient of 0.5 and to contribute 2 sabines of sound absorption to the room.

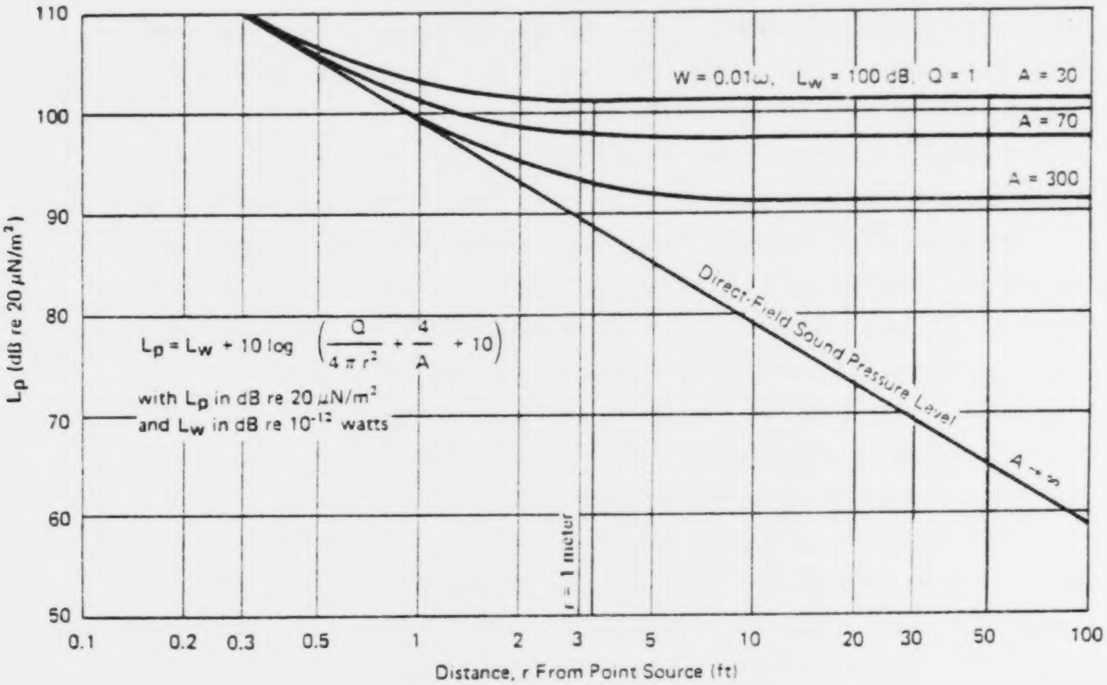

Figure 1-18
Behavior of Sound Indoors, Sound Source Out in Space

The upper curve corresponds to a very "live" room, containing only 30 sabines (units of sound absorption) which might be typical of a bathroom where the sound absorption might be 25 to 45 sabines). The second curve is for a room with 70 sabines, typical of a kitchen where sound absorption ranges from about 50 to 75 sabines. The third curve is for a living room with 300 sabines. Living rooms and bedrooms, which are usually more heavily furnished with absorptive furniture and materials than other rooms, are rather "dead", acoustically; typical absorptions range from 180 to 500 sabines. The lowest curve represents the level of direct-field outdoor sound, which is masked by the reverberant sound at distances greater than about 5 ft.

The curves of Figure 1-18 correspond to the equation

$$p^2(r) = Wz \quad \frac{Q}{4\ r^2} + \frac{4}{A} \quad . \qquad (1\text{-}5)$$

The first term is the direct sound, already encountered in Eq. 1-3 in the discussion of sound behavior outdoors; the second term accounts for the reverberant sound in the room. If the absorption in the room is very great, the second term tends to zero, and the sound behaves as if it is outdoors; if the distance from the source is very great, the first term tends to zero and the reverberant sound dominates. The decibel equivalent of Eq. 1-4 is

$$L_p = L_w + 10 \log \quad \frac{Q}{4\ r^2} + \frac{4}{A} \quad + 10 \cdot \qquad (1\text{-}6)$$

Note also that the boundary between the regions of the direct and the reverberant sound fields, where the curve levels off, lies somewhat nearer the source for a live room than for a dead room; when there is lots of sound absorption in a room, the "outdoor behavior" persists to greater distances.*

o Sound Source Mounted in Hole in Wall

Suppose now that the sound source (for example, a window fan) is mounted in a hole in the wall, so that it radiates half its energy outdoors and half indoors; in this case, there is no reflected image of the source.

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*Acoustics textbooks sometimes point out the fact that in real rooms. the sound level is not always so uniform as is indicated by the horizontal portions of the curves at the right of Fig. 1-18 and 1-19. Indeed, it is true that for narrowband sources there will be fluctuations of sound level (up to ±5 dB for pure tones) around those curves as averages in the reverberant sound field. However, for broadband noise spectra, for which the use of A-weighted sound levels is appropriate, such fluctuations are negligible. If pure tones, which would tend to increase the spatial fluctuation of the sound level, are present, they would also disqualify the use of the A-weighted sound level for rating the noise.

Viewed from outdoors, the effective sound power is half the original total sound power: W = 0.005 watts, L_W = 97 dB. Because this energy is radiated into only half a hemisphere, the directivity is doubled (Q = 2), as when the source was resting on the ground in the example above; but halving the sound energy corresponds to a decrease of 3 dB. The net result is that the sound outside the building behaves just as in free space, according to Line A of Figure 1-17; the presence of the building makes no difference.

Inside the room, the sound power is also 0.005 watts, and Q = 2, so the direct field sound pressure level will be the same as outdoors (Line A of Figure 1-17) and also the same as the lowest curve of Figure 1-18. However, halving the energy radiated into the room decreases the reverberant sound pressure levels by 3 dB; doubling the directivity does not compensate for this decrease, because the directivity of the source has no effect on the reverberant sound pressure level at values 3 dB below the values shown in Figure 1-18.

o Constant-Volume-Velocity Sound Source on the Wall or Floor

If, instead of being mounted in a hole in the wall, the source is entirely within the room and against a hard room boundary, the radiation is once more into a hemisphere, so Q = 2; but now the source again coincides with its reflected image, and the sound power is doubled: W = 0.02 watts and L_W = 103 dB.

The direct sound field (indoors or outdoors) behaves according to Line C of Figure 1-17; it lies 6 dB above the curve for "source out in space" at all distances.

The curves in Figure 1-18 of the reverberant field sound pressure level for the three rooms now lie 3 dB higher, because twice as much energy is being radiated into the room. This behavior for "constant-volume-velocity source against a reflector" is shown in Figure 1-19; this figure, for the "source against a reflector", should be compared with Figure 1-18 for the "source out in space."

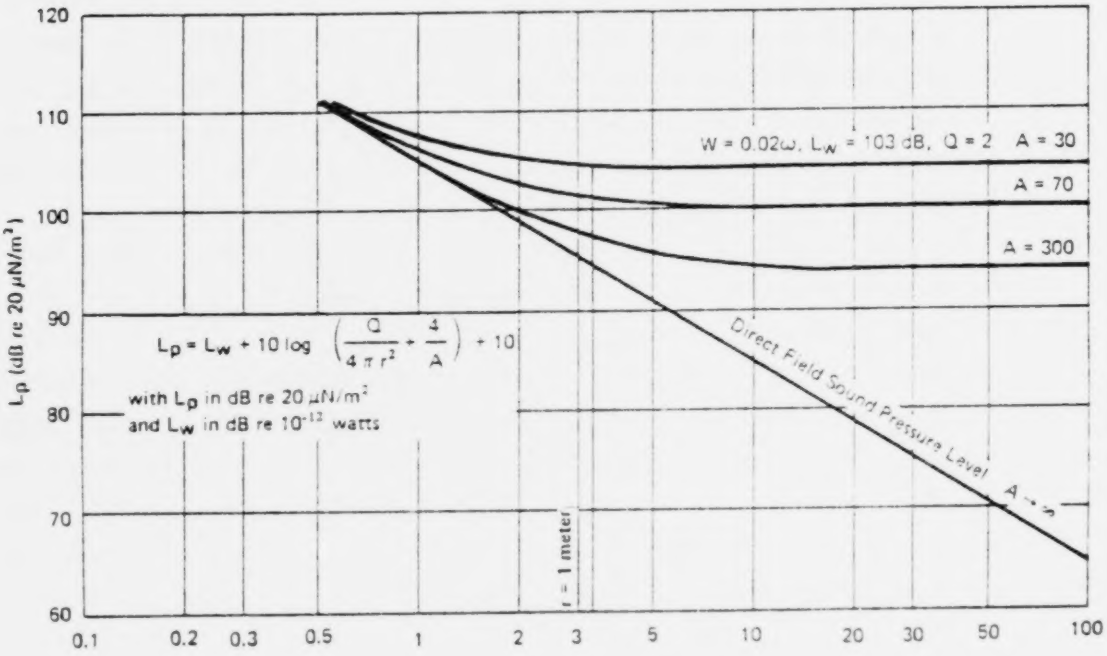

Figure 1-19
Behavior of Sound Indoors, Constant-Volume-
Velocity Sound Source on Reflecting Surface

Again, for the two live rooms, the sound pressure level equals the sound power level within 2 1/2 dB, provided that the sound power was actually measured with the source against a reflector, so that the energy doubling is properly taken into account.

o How Close is "Close"?

The discussion so far has assumed small "point" sources and the possibility that when a source is "on" a reflecting surface, it virtually lies in the surface and coincides with its reflected image. This assumption is the theoretical requirement for hemispherical directivity and energy-doubling when a source lies against a reflecting surface. Actual noise makers have finite size, however, and the effective source of the sound cannot be placed directly on a reflecting surface. The question thus arises as to how close such real sources must be to a reflector in order to realize the increased directionality and energy doubling discussed above.

Figure 1-20 shows the variation in sound power output for a single frequency, as sound sources of various types are moved away from a large reflecting surface. Figure 1-21 shows that the behavior is not much different for broadband noise spectra. These theoretical results have been experimentally verified by measurements of the reverberant sound levels in a reverberation room. Note that the power output drops off rapidly as the source moves away from the reflector: For monopole sources, when the separation is 1/4 of a wavelength (1/4), the power is down to the "out in space" value; at about 1/3-wavelength separation, the power has fallen considerably below its normal value. When the separation exceeds a wavelength, the sound power has essentially its "out in space" value - i.e., $W/W_0 = 1$.

The levels in decibels on Figure 1-20 refer to the sound power level relative to the value with the source directly on the reflecting surface; the reverberant sound field in the room would follow these levels, as the source is moved away from the surface. For the reverberant sound pressure level to be within

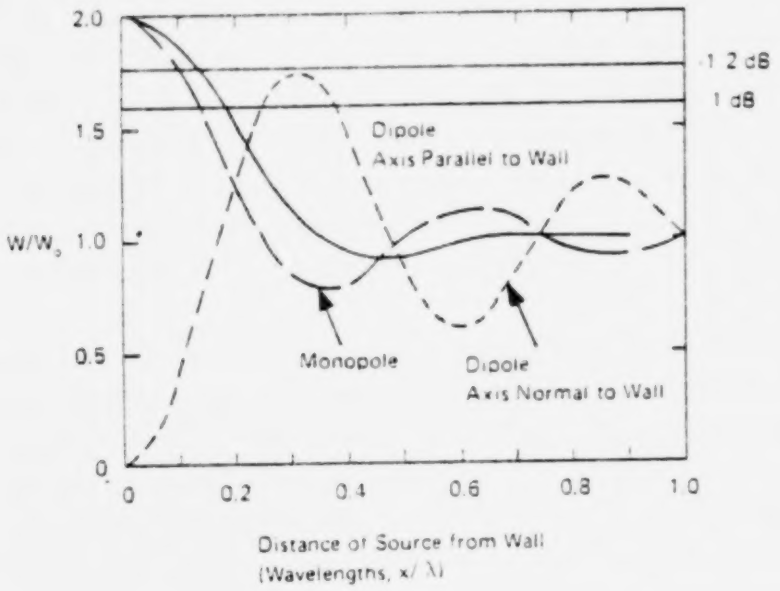

Figure 1-20
Variation in Sound Power Outputs as Source is Moved Away From Reflecting Wall

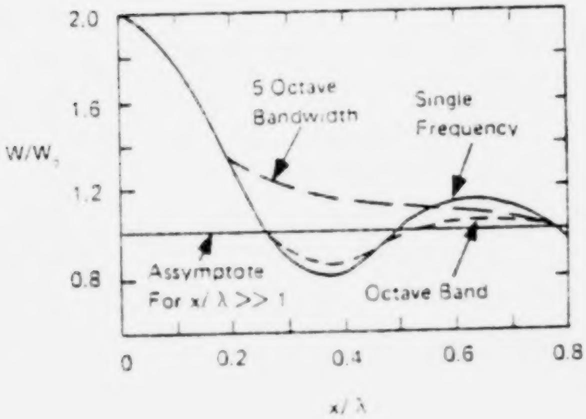

Figure 1-21
Behavior of Sound Source Near a Reflecting Surface. Not much changed by averaging over frequency.

1 dB of the "source on surface" value, the source must be at a distance less than 1/5-wavelength from the surface. The direct sound field, however, is affected by both the energy output of the source and its directivity; the changes in direct-field sound pressure level would therefore be twice as great. For the direct-field sound pressure level to be within 1 dB of the "source on surface" value, the source must actually be within 1/10 of a wave-length of the surface.

Note that these observations have implications for the steady-state test method that measures the absorption in a room by comparing the nearfield sound pressure of a small source with the farfield (reverberant) sound pressure, with the distance from the source for the near measurement carefully fixed. The assumption underlying the steady-state method is that the difference between nearfield and farfield pressures depends only upon the amount of absorption in the test room, once the method is calibrated by decay measurement of the absorption for one room's conditions.

We have just seen, however, that the direct-field and reverberant sound pressures depend in different ways upon the distance of the source from the nearest reflecting surface. Therefore, the nearfield-farfield difference, for a given room absorption, also depends on the distance of the source from the reflecting surface. Not only must the distance from the source be carefully controlled for the near measurement, but also the distance of the source from large reflecting surfaces must be kept the same as for the calibration of the method. The safest procedure would be to keep the source well "out in space", away from any room boundaries.

Returning to the kinds of equipment likely to be subject to EPA labeling, it is of interest to determine the separation from a reflecting surface corresponding to 1/10-wavelength for the octave band that governs the A-weighted sound level. Only if the effective center of the sound source of the equipment is located this close or closer to a surface will the hemispherical directivity and the energy-doubling occur. Table 1-17 gives those

Table 1-17

Separation Distances "Close" to a Reflecting Surface and "Out In Space". (ft.)

Product	"Close to Surface"	"Out in Space"
Humidifier	1.7	27
Floor Fan	2.7	27
Dehumidifier	1.35	13.5
Window Fan	2.7	27
Air Conditioner	0.6 to 5.4	6 to 54
Toilet	1.35	13.5
Dishwasher	2.7	27
Vacuum Cleaner	0.6	6
Food Blender	0.3 to 0.6	3 to 6
Electric Shaver	0.3	3
Food Disposal	0.3 to 0.6	3 to 6
Home Shop Tools	0.6	6

separation distances within which power doubling occurs (Figure 1-19) as well as the separations beyond which the source is effectively "out in space" (Figure 1-18). It is clear that these products will hardly ever be used in such circumstances that hemispherical directivity and energy-doubling will occur. Even in the case of vacuum cleaners and lawn mowers that necessarily operate against a surface, the surface is highly sound absorptive in the frequency range that governs the A-weighted sound level.

Note that for low frequencies it may be impossible for indoor sources to get far enough away from the room boundaries for the energy-boosting effect to disappear entirely. It is often found that the low-frequency sound power output of a product is substantially different when measured outdoors (or in an anechoic room) than when measured in a reverberant room. This difference represents a true difference in sound power output, due to the reaction of the room upon the source. The difference may be positive or negative, depending on whether the source is of the "constant-volume-velocity" type (more power indoors) or "constant force" type (less power indoors).

At high frequencies, however, where the wavelength is small compared to the room dimensions, so long as we confine ourselves to broadband noise sources (no prominent single tones), there is no significant room reaction on the source at distances more than a wavelength or so from the boundaries. In other words, the acoustic impedance presented to a broadband source, in a room whose dimensions are large compared to the wavelength, is the same as that encountered outdoors.

o Inherent Directivity of the Source

The discussion so far has assumed a monopole ("simple" or "point") source that radiates sound equally in all directions, so long as it is "out in space"; for such a source, the intrinsic value of Q is 1, and this value changes only when the source is near a reflector. Sound sources of higher order (dipoles or quadrupoles, for example) have an intrinsic directivity: for a given sound power, the sound pressure at the user's ear depends on the direction in which the source is pointing; the reverberant-field sound pressure, of course, is the same as for a monopole source of the same power.*

For such a sound source, the horizontal portions of the curves at the right of Figure 1-18 would always be the same, as shown, but the direct-field portion of the curve would move up or down, depending on whether the beam of the source is pointed toward or away from the observation point.

In practice, therefore, this difference is of concern only for equipment for which the typical user's location is in the direct field - i.e., equipment that is hand-held or operator-attended. Such products are typically moved about in use, so that the sound pressure at the user's ear is sometimes greater and sometimes less than the average. Thus, for noise-rating purposes, we can assume that the effective sound pressure, as it affects the user, is approximately the same as for a monopole source having the same sound power, and we can continue to use monopole curves such as those of Figure 1-18.

---

*Gosele has studied a variety of hand-held products and has determined that the large majority represent source types between simple monopoles and dipoles [10].

o General Curves Relating Sound Power Level and Sound Pressure Level

Figure 1-18 is not a very convenient form for general use, because (in order to simplify the earlier discussion) it was plotted for a specific value of sound power level, L_W = 100 dB re 10^{-12} watts. (The same is true of Figures 1-17 and 1-19.) Therefore, we have replotted Figure 1-18 in general form in Figure 1-22, which shows on the vertical scale the difference between the sound pressure level and the sound power level. So long as the sound power level is measured with the product in a location with respect to reflecting surfaces that are typical of actual use, Figure 1-22 will give the correct sound pressure level. No assumption is needed about the effect of nearby reflecting surfaces on the relation between sound power and sound pressure, because those effects concern only the direct field of the sound source; the sources for which the user's ear will be in the direct field are not likely to be used "close" to a reflecting surface, as defined earlier.

TYPICAL USER DISTANCES AND LABEL-NOISE-RATING CATEGORIES

We now consider typical user distances for the various kinds of products likely to be labeled. Such products fall into three categories:

A. Products used on or about the head, such as the various electrical grooming devices;

B. User-operated tools that are hand-held or controlled within arm's length;

C. Fixed equipment that is not operator-attended.

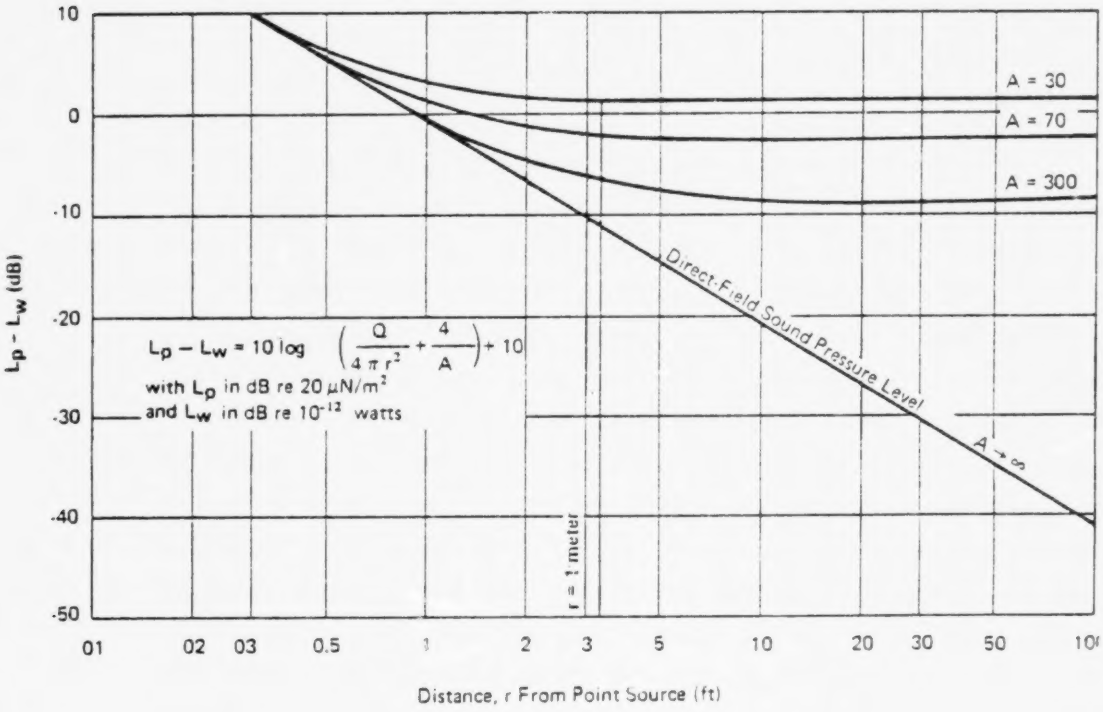

Figure 1-22
Behavior of Sound Indoors, Sound Source Out
in Space: (Difference Between Sound Pressure Level
and Sound Power Level.)

For products in Category A, the user is always in the direct sound field; for Category C, the indoor user is practically always in the reverberant field, while the outdoor user is usually far enough away that the question of labeling is of little significance. For Category B, the indoor user is in the transition region between direct and reverberant fields; but, as can be seen from Figure 1-22, at distances from 1 ft and an arm's length, the sound pressure level at the user's ear is nearly the same as in the reverberant field.

Further inspection of Figure 1-22 reveals that, so far as the sound pressure at the user's ear is concerned, practically all equipment falls into only two label-noise-rating categories:

1. Products for which the sound pressure level is about equal (±2 dB) to the sound power level; this includes Category A and all of Categories B and C that are used in "live" rooms, such as baths, kitchens and workshops.

2. Products for which the sound pressure level is about 8 dB (±2 dB) lower than the sound power level; this includes all outdoor products in Category B and all indoor products in Categories B and C that are used in "dead" rooms, such as living rooms and bedrooms.

Table 1-18 indicates the typical user distance category for the kinds of products considered earlier and shows the label-noise-rating category that would be appropriate.

For all products in Label-Noise-Rating Category 1, the number that appears on the label would be the sound power level; for equipment in Category 2, the number on the label would be the sound power level minus 8 dB. The sound power level in question is the value measured with the product in its typical location with respect to reflecting surfaces.

In all cases, the number of the label represents the actual sound pressure level at the typical user's ear; thus, it may be used to estimate the human effect of the noise, in terms of speech interference, annoyance, etc.

CONCLUSION

At first sight, the variety of product types and the complexities of sound behavior in different kinds of situations suggest formidable problems in formulating a meaningful noise rating for labeling purposes. It turns out, however, that a consideration of the manner and the locations in which the product will actually be used in practice can lead to great simplification

Table 1-18

Typical User Distance Category and Appropriate Label-Noise-Rating Category

Equipment	User Distance Category*	Label-Noise-Rating Category
Humidifier	C	2
Floor Fan	C	2
Dehumidifier	C	2
Window Fan	C	1 (?)
Air Conditioner	C	2
Toilet	C	1
Dishwasher (Note 1)	C	1
Vacuum Cleaner	B	2
Food Blender (Note 2)	B	1
Electric Shaver (Note 3)	A	1
Food Disposal	B	1
Home Shop Tools	B	1

---

*A - equipment used on or about the head; b - operator-attended equipment, used at convenient working distance, less than an arm's length; C - equipment that is fixed and not operator-attended.

Note 1: Includes clothes washers and driers.

Note 2: Includes all other portable food preparation equipment, such as electrical mixers, slicers, grinders, etc.

Note 3: Includes all other personal grooming equipment, such as barber's clippers, hair driers and stylers, electric toothbrushes, oral lavage, etc. Possibly, electric shavers should occupy a special class, since they can be used very close to the ear, and thus, according to the curve of Fig. 1-22, could impose sound pressure levels that exceed the sound power level by 5 or 6 dB.

It is, in fact, possible for a (single) number on a label to relate directly both to the sound power output of the device and to the human effect of the noise in terms of the sound pressure level at the user's ear.

The consumer needs only to be educated to know that the number on the label relates to the typical sound pressure level at his ear, as he uses the product. Technical people, who are likely to find the sound power level useful, will know from the text of the labeling regulation how to relate the number on the label to the corresponding sound power level in each case.

The conclusions stated above are valid only to the extent that sound in real rooms in dwellings behaves according to the acoustical theory presented in textbooks/i.e., there exists a "direct" sound field near a point source, where the level diminishes at the rate of 6 dB per doubling of distance, and a "reverberant" field filling most of the rest of the room, where the level is almost uniform. In fact, however, most kinds of products that will be considered for labeling are large enough that within the direct field they are not "point" sources; the attenuation with distance is more like 3 dB than 6 dB per distance doubled. Moreover, at distances far from the source, real rooms do not behave like the classical reverberant rooms of theoretical acoustics, but more like lined ducts; again, there is an attenuation of 3 dB per distance doubled, rather than a uniform sound level without significant spatial dependence.

The behavior of sound in real rooms can be illustrated by the preliminary measurements shown in Figure 1-23. These data come from typically furnished living rooms, bedrooms, bathrooms, kitchens, and laundry rooms, only one or two in each case. The same data are plotted in two ways: once with the sound pressure levels for all the devices normalized to be equal at 1 ft from the source and then with the levels normalized to be equal at 2 ft. Note that only for the electric shaver in the bathroom does the sound behave like that of a point source (6 dB per distance doubled) and only in one of the bedrooms and the laundry room does the sound level tend to a constant value at large distances.

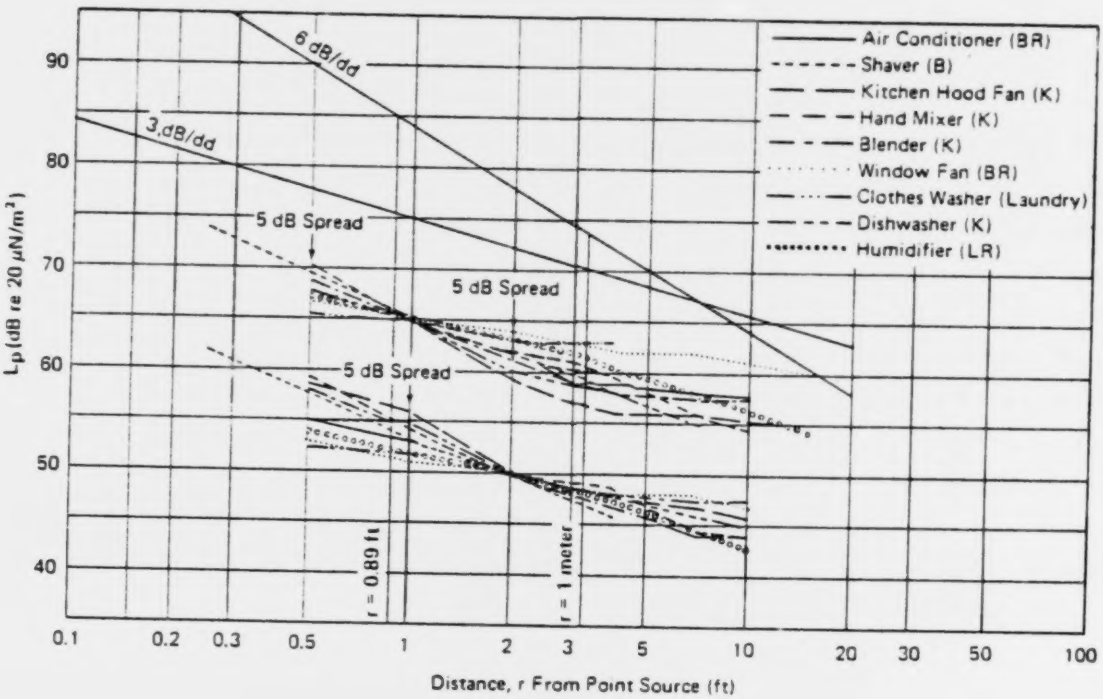

Figure 1-23
Preliminary Results of Measurements of Sound
Attenuation vs Distance in Real Dwelling Rooms
(Using Household Devices as Sources of Sound)

Instead, on average, there is, for most of the cases, a steady attenuation of 3 dB per distance doubled at all distances. Since the power level of the sources was not known, it is not yet possible to state a relation between sound power level and sound pressure level similar to that of Eq. 1-3 or Eq. 1-4.

APPENDIX A: OCTAVE BANDS THAT DOMINATE THE A-WEIGHTED SOUND LEVELS IN EQUIPMENT LIKELY TO BE LABELED (DOMINATING LEVELS ARE UNDERLINED).

Table A-1
Octave Bands of Equipment Likely to be Labeled

	Frequency						
Equipment	63	125	250	500	1000	2000	4000
Humidifer	44	60	60	59	52	49	41
A-weighted	18*	44	52	56	52	50	42
Floor Fan	50	55	52	48	44	40	33
A-weighted	24	39	44	45	44	41	34
Dehumidifier	40	58	45	44	43	40	30
A-weighted	14	42	37	41	43	41	31
Window Fan	57	65	61	58	53	50	44
A-weighted	31	49	53	55	53	51	45
Air Conditioner	52	70	63	58	55	54	48
A-weighted	26	54	55	55	55	55	49
Toilet	(50)	60	70	68	68	66	60
A-weighted	(24)	44	62	65	68	67	61
Dishwasher	63	68	66	63	57	51	45
A-weighted	37	52	58	60	57	52	46
Vacuum Cleaner	48	53	54	55	58	59	52
A-weighted	22	37	46	52	58	60	53
Food Blender	45	50	55	55	59	65	65
A-weighted	19	34	47	52	59	66	66
Electric Shaver	42	38	36	46	51	59	60
A-weighted	16	22	28	43	51	60	61
Food Disposal	60	72	58	53	55	55	55
A-weighted	34	56	50	50	55	56	56
Home Shop Tools	53	58	63	68	72	76	72
A-weighted	27	42	55	65	72	77	73
*A-weighting	-26	-16	-8	-3	0	1	1

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P.L. 89-92 "Public Health Cigarette Smoking Act"

15 USC 1261 _Et. seq._ "Federal Hazardous Substances Act"

15 USC 1451 _Et. seq._ "Fair Packaging and Labeling Act"

15 USC 2051 _et. seq._ "Consumer Product Safety Act"

21 USC 301 _et. seq._ "Federal Food, Drug and Cosmetic Act"

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16 CFR: Parts 423, 1508

21 CFR

29 CFR: Part 1910

40 CFR: Part 85

49 CFR: Part 162

39 FR 36890

PART II

DOCKET ANALYSIS

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SECTION 1: GENERAL ISSUES

INTRODUCTION

On June 22, 1977, the Environmental Protection Agency (EPA) published a proposed rule in the Federal Register (42 FR 31722) to establish a product noise labeling program under the authority of and as required by Section 8 of the Noise Control Act of 1972 (42 USC 4907).

At the time of publication, the EPA solicited written public comment on the proposed general provision as well as all other aspects of the proposed product noise labeling program. Public hearings were not initially scheduled. The public comment period for the proposed rule was originally set at 90 days with closing scheduled for September 20, 1977. As a result of the large number of letters received shortly after publication, the Agency decided to schedule public hearings on the proposed rule and extended the comment period to October 28, 1977. Hearings were held in Washington, D.C. on September, 16, 1977; in Cedar Rapids, Iowa on September 20, 1977; and in San Francisco, California on September 22, 1977.

In all, the Agency received 735 written comments by the close of the comment period. Ten additional comments were received after the close of the comment period, but were pertinent, and were considered in the analysis. The Agency took oral testimony from 51 individuals, organizations and businesses at the three public hearings. Over 600 of the written comments were from private citizens.

The oral and written comments dealing with the proposed general provisions were each assigned a "docket" number prefixed by 77-8. For example, entry 77-8-415 refers to the 415th comment received by the Agency. Numbers were assigned consecutively by

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time and date of receipt. Comments numbered 1 through 745 refer to written comments, while comments numbered 901 through 955 refer to those received at the public hearings. For simplicity, only the last three digits of each docket entry are used in this docket analysis.

The number in parentheses following each reference to a comment or commenter is the docket number.

Appendix A of this Part identifies the issues and statements made by each commenter.

Appendix B of this Part is a complete index of all docket entries, including the docket number, name of the person, and the organization represented (if any).

1.1 VOLUNTARY LABELING PROGRAMS

Several commenters recommended that the Environmental Protection Agency (EPA) encourage industry to develop voluntary labeling programs. Most of these recommendations came from manufacturers or trade associations. The Briggs and Stratton Corporation (624) supported voluntary programs, because of their minimum disruption to the market mechanism, lower costs, and limited government involvement. They felt that manufacturers would report noise ratings as accurately as other product information. J. I. Case Company (Case) (526) and Deere and Company (930) also urged consideration of voluntary approaches, which they preferred and would support. J. I. Case (924) testified that EPA enforcement would not be necessary and neither would independent auditing of test results. The company felt industry self-policing was sufficient - at least in the case of his company's competitors. Case also cited two examples where the company either received or sent a letter complaining about the inaccuracy of noise-related product claims. Kodaras Acoustical Laboratories (647) praised the labeling effort but also opted for a program undertaken in the private sector, recommending The Air Conditioning and Refrigeration Institute's voluntary program as a model.

The Air Conditioning and Refrigeration Institute (ARI) (729, 707, 901), emphasized the utility of the voluntary approach. ARI suggested quite strongly that EPA should work with industry by providing guidance for the development of voluntary labeling actions and by offering a public education campaign to promote understanding of the voluntary programs. Another recommendation, offered as an alternative to mandatory labeling, was for periodic monitoring by EPA of a voluntary industry sound-rating certification program. ARI also explained the operation of its voluntary labeling program.

The Home Ventilating Institute (HVI) (740) explained its sound rating certification program at length, noting its wide acceptance in both public and private sector circles. In HVI's opinion, its linear scale and overall features achieve all of EPA's major objectives for the labeling program.

The International Snowmobile Industry Association (ISIA) (905), felt that voluntary industry labeling was the most effective means for achieving EPA's goals with a minimum of government involvement. In order to stimulate voluntary industry efforts, ISIA recommended various inducements: (1) dropping voluntarily-labeled products to the bottom of the list of products subject to mandatory labeling; (2) urging government to favor these products; (3) providing these manufacturers with access to EPA testing facilities; (4) supporting joint EPA-industry financing of sound control research; and (5) positive publicity for cooperative industries. Other ISIA comments describe their current voluntary sound emission certification program (611) and their recent adoption of a new voluntary noise labeling program (548).

Comments made by the above parties - either submitted in writing or in response to questions at the three public hearings - point up certain problems affecting voluntary labeling actions. First, spokesmen for ARI and ISIA indicated that certain manufacturers do not participate in their programs (902, 611), thereby penalizing cooperating manufacturers and resulting in the disruption of the market forces which will hopefully result in quieter products. Second, several comments about the practices of independent testing laboratories cast doubt on the overall credibility of a labeling program that is not tightly enforced, or at a minimum, monitored by the Federal government. The prevalence of inaccurate test results due to fraudulent activities or manipulated measurements was mentioned by acoustical consultants and a public official in the noise control area (952, 953, 954).

A third problem in the purely voluntary approach is the possibility that manufacturers will provide noise ratings in brochures that are not available at the point-of-sale (902) or will not provide the specific noise levels on labels but merely state that the product's noise emission does not exceed a certain level (905).

Response:

The Agency's intention to consider the possibility of voluntary labeling actions on a product-by-product basis is reflected in two of the objectives of the labeling program, which are:

- "To provide accurate and understandable information to consumers with minimal Federal involvement. Minimal Federal involvement is to be achieved by ensuring that the Federally imposed labeling requirements are carefully analyzed and structured so as to reduce the administrative, economic and technical impacts of the Federal program as much as possible."

- "To promote effective voluntary noise labeling efforts on the part of product manufacturers and suppliers with the anticipation that a concomitant reduction in product noise may occur due to market demands."

Section 8 of the Noise Control Act of 1972, however, makes it clear that the Agency is required to promulgate regulations designating and labeling ". . . any product (or class thereof) which emits noise capable of adversely affecting the public health or welfare" and ". . . any product (or class thereof) which is sold wholly or in part on the basis of its effectiveness in reducing noise." While the Agency will consider voluntary labeling action as a potential alternative to the implementation of this non-discretionary duty, a voluntary program would have to satisfy the Agency's important goals before it could be accepted as a feasible alternative to Federally-mandated labeling. Lack of label uniformity, noncompliance by a large segment of an industry, inter-industry variations in noise rating schemes, and the problems raised by commenters represent some of the possible limitations of a voluntary labeling program as a vehicle to accomplish the two other objectives of the program:

- "To provide accurate and understandable information to product purchasers and users regarding the acoustic properties of designated products so that meaningful comparisons with respect to noise emission or noise reduction can be made as part of purchase or use decisions."
- "To promote public awareness of product specific contributions to the environmental noise problem and to foster an understanding of associated terminology and concepts."

Nevertheless, the EPA continues to fully support the development and implementation of voluntary noise labeling by product manufacturers. The final rule encourages the development of voluntary labeling programs and deliniates the minimal elements that the Agency considers essential to any voluntary noise labeling program. These elements are not intended to be a comprehensive outline for the structure of a voluntary program that EPA would definitely accept as a substitute for Federal labeling. Rather, the list presents the basic requirements that the Agency believes should be in an effective voluntary noise labeling program if it is considered as an alternative to Federal labeling.

The Agency will consider a voluntary labeling program in lieu of mandatory noise labeling requirements for a particular product on a case-by-case basis.

Major Elements of Adequate Voluntary Noise Labeling Programs

1. Participation - Uniform participation by all manufacturers or by a high percentage of the total market of a particular product.

2. Measurement Methodology - A uniform methodology which gives accurate and meaningful data.

3. Acoustic Descriptor
    A. Noise Emitting Products - Sound pressure in dBA at 1 meter in 1 dB increments (may be obtained by converting sound power levels or sound level data taken at other distances using a recognized standard method).
    B. Noise Reducing Products - Meaningful numerical rating of product's noise attenuating or absorbing capability.

4. Minimum Label Content
    A. The term "Noise Rating" or "Noise Reduction Rating"
    B. Acoustic Descriptor
    C. Comparative Information - supplied by the industry, compiled from manufacturer's periodic data reports (depending on the product)

5. Label Format and Graphics
    A. Prominence of acoustic descriptor and the term "Noise Rating" or "Noise Reduction Rating".
    B. A label shape dissimilar to the EPA noise label.
    C. An Industry-wide uniform label shape for a particular product or class of products.

6. Label Placement and Size - Readily visible to consumers at time of sale, taking into consideration various ways in which the product may be marketed.

7. Compliance Program - Incorporating product testing and the review of test reports, labels and associated marketing literature, and provisions for rectifying improper labeling.

8. Reports - Periodic reports (depending on the product) to the EPA which include the status and effectiveness of the program and a compilation of the labeled values for all labeled models.

9. Availability of Data - Availability to the EPA of all data, test reports, and other documentation related to the program.

The EPA encourages product manufacturers or trade associations to communicate with us to discuss any aspects of voluntary noise labeling, and will assist industry in developing those programs.

1.2 STATUTORY AUTHORITY

1.2.1 Questions Concerning the Issuance of General Provisions before Product-Specific Regulations

An industry (622) (General Motors), a trade association (590), and a private citizen (621) questioned the appropriateness of promulgating the general labeling provisions before the product-specific regulations. One argument was that this sequence of actions was illogical. The Outdoor Power Equipment Institute (590) seemed to feel that both the general provisions and product-specific regulations must be considered in tandem, and therefore no useful purpose is served by issuing the general provisions before the product-specific regulations. The commenters wanted to be certain they could comment on the General Provisions and also on product-specific regulations, if the Agency proposed specific product regulations affecting their industry. The General Motors Corporation (622) indicated that its comments on the General Provisions should be considered in future product-specific rulemaking. General Motors also claimed there were difficulties in selecting a label format before deciding upon the product and the relevant information to be included on the label.

One commenter (621) felt that the proposed standards create confusion and procedural dilemmas when implemented for a particular product, since they neither apply to a specific product nor to all products in general. He also was of the opinion that each product had to be considered separately in terms of its noise emission properties, applicability to testing procedures, etc.

A second argument was that EPA had no authority to issue the General Provisions. The commenter (621) maintained that Section 8 gave the Administrator authority to promulgate labeling regulations only with respect to products which emit noise "capable of adversely affecting the public health and welfare, or which are sold on the basis of their effectiveness in reducing noise." He asserted that until such product-specific regulations were promulgated, no authority exists to require labeling. A similar position was adopted by a major industry (622), which thought specific products had to be chosen before labeling requirements were enacted.

Response:

The Agency believes that the issuance of these General Provisions for product noise labeling is logical and advantageous both to the general public and to industry. The Agency did not wish to re-propose many of the same regulatory elements in each of its product-specific labeling actions, and so it decided to propose a set of labeling requirements that would apply to all products that might be labeled in the future. Since a product-specific regulation will clearly delineate any exceptions to the General Provisions, there should be no confusion in using the General Provisions and product-specific regulations in tandem.

The Agency's also intended the General Provisions to provide guidance to the general public as well as to all potentially affected parties as to the general nature and intent of the proposed noise labeling program. The response to the docket attests to the success in generating comments from the public and numerous potentially affected industries. These comments have helped the Agency to shape its overall noise labeling regulatory program to be both effective and reasonable, and to anticipate many of the technical problems that may occur in the development of product-specific labeling regulatories. At the same time, product manufacturers and suppliers are afforded additional time to prepare for possible Federal noise labeling action and to consider the formulation of voluntary labeling programs.

Another rationale for issuing the General Provisions concerns the need for label uniformity in order for the program to be effective. The Agency believes that consumers will be more likely to notice the labels and to learn how to use them effectively if they are similar in format and require the use of approximately the same cognitive skills across different product classes.

Regulatory provisions that are not amenable to generalization across all products, such as testing methodologies, have not been specified in the General Provisions and will be addressed in product-specific regulations.

The General Provisions were proposed concurrently with product-specific labeling provisions for hearing protectors. Both of the proposed regulations appeared in the same issue of the Federal Register.[1] The General Provisions were proposed as Subpart A to 40 CFR 211, and the product-specific hearing protector requirements as Subpart B. The General Provisions were proposed and will exist, therefore, as part of the regulatory requirements for the labeling of hearing protectors.

The Agency's authority for their proposal and promulgation clearly exists within the authority granted the EPA in Section 8 (a) and (b) for the labeling of products ". . . sold wholly or in part on the basis of (their) effectiveness in reducing noise."

In the case of future product-specific regulatory actions, industry and the general public will have the opportunity to comment on all aspects of the regulation affecting a given product.

1.2.2. Determining if a Product is Capable of Adversely Affecting the Public Health or Welfare

Several commenters representing manufacturers or trade associations expressed different concerns about the process of determining what products were capable of adversely affecting the public health or welfare.

One comment appeared to reflect some confusion about what kind of impact constituted an adverse effect on the public health or welfare. The contention made by Deere and Company (Deere) (930) and the Compressed Air and Gas Institute (CAGI) (910) was that the legislative history of the Noise Control Act demonstrates that Congress wanted to focus attention on those products potentially damaging to health or hearing. Two auto manufacturers - Renault and Peugeot (262, 278) - asserted that passenger car noise does not constitute a health hazard, and thus the labeling program can only be directed at the level of comfort of the occupants - which is impossible to evaluate in relation to interior noise.

Other commenters reiterated this concern about the interpretation of "adversely affecting public health and welfare." The Association of Home Appliance Manufacturers (AHAM) (629) doubted if Section 8 of the Act gave EPA the authority to require labeling on a product which might constitute a hazard to hearing only when evaluated "in the context of cumulative exposure," which it deemed to be a vague phrase. AHAM, the Hoover Company, and Kirby Vacuum Cleaners (629, 648, 906) - each claiming their products cannot be shown to adversely affect public health or welfare - implied EPA was overstepping its authority by requiring labels on products which emit noise that is only occasionally annoying. Deere and Company expressed a great deal of concern about the difficulty of establishing the meaning of "health and welfare," and about the possibility of EPA's selecting products for regulation when an adverse impact could not be demonstrated. Deere maintained that this latter situation requires factual evidence that a (product's) capability for adverse effects exists (930). Deere (738) also expressed concern that the language of the General Provisions could be used to move beyond EPA's labeling authority in selecting products. Deere urged that the Preamble be written to clearly narrow EPA's product selection discretion.

Another question raised with respect to this issue area is the type of proceeding required to make this determination about a product. According to the Ford Motor Company (Ford) (907) and the

Vacuum Cleaner Manufacturers Association (VCMA) (651), the decision about whether or not a product "adversely affects the public health and welfare" requires a rule-making proceeding. VCMA made reference to the Administrative Procedure Act, 42 U.S.C. Section 4905(c)(2) and 4907 (b), while Ford cited the statutory language of Section 8 as the basis for this observation. In the opinion of the Hoover Company and VCMA (648, 651), the outcome of any future proceedings could be prejudiced by the negative publicity given to vacuum cleaners in the public hearings and in EPA's published list of appliances considered for labeling.

Response:

In accordance with the statutory language in Section 8 governing noise-producing products, the Agency will make a factually-supported decision as to the capability of a product's noise to adversely affect public health or welfare before promulgating final regulations. The Agency will, in fact, make this determination in a rule-making proceeding - namely, the notice of proposed rule-making for each individual product.

In deciding whether or not a product is capable of affecting the public health or welfare, the EPA will rely in part on the factual evidence in the following documents published by the Agency: "Public Health and Welfare Criteria for Noise," EPA 550/9-73-002 [2]; and "Information on Levels of Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA 550/9-74-004 [3]. The Agency disputes the contention or implication that the public health or welfare can only be adversely affected by noise at a level where hearing damage is produced. It is evident that this definition of public health and welfare is overly restrictive. The Agency believes a more appropriate definition is afforded by the World Health Organization, which states that health and welfare is " . . . complete physical, mental and social well-being and not merely the absence of disease and infirmity." [4]

Based on this definition and findings in the above studies, it is clear that noise-induced annoyances, such as interference with sleep, speech, and excessive cumulative noise exposure can be considered adverse effects on the public health or welfare. It is also evident from the statutory language in the Noise Control Act, as well as its legislative history, that Congress did not intend to restrict the labeling program only to products capable of producing hearing loss.

The above claims as to whether or not the noise from a particular product is capable of adversely affecting public health or welfare cannot be addressed at this point but will be considered in any product-specific regulatory action taken with respect to those products. Finally, the Agency does not agree that negative comments made about a product's noise properties at the public hearings unfairly prejudices future proceedings, because one purpose of the public hearings was, in fact, to solicit the public's feelings about what products disturbed them most. The Agency also disputes any charge that its public information activities have unfairly prejudiced the determination of a product's capability to adversely affect the public health or welfare, since this determination will be made using objective health effects data and studies.

1.2.3. Relationship Between Actions Taken Under Section 6 and Section 8

Several commenters, representing major industries, made assertions about the implementation of Sections 6 and 8 with respect to the same product. Counsel for the Compressed Air and Gas Institute (910) expressed the opinion that once a product fell under Section 6 emission standards, it would be "inappropriate" to proceed to Section 8 mandatory labeling, except in the cases of a few products with high noise-emission levels. The Chrysler Corporation (672) felt that labeling could not be required for products designated under Sections 5 and 6, because they had already been rendered safe by the latter action - the mandatory emission standards. The Ford Motor Company (907) expressed a different concern - that Section 8 could be used to impose regulatory enforcement and to avoid the procedures for identifying a product as a major noise source under Section 6. Deere and Company (738) suggested that labeling under Section 8 would be appropriate for products identified as major (Section 5) noise sources in the event a noise emission standard (Section 6) was deemed infeasible.

Response:

There is no statutory language in the Noise Control Act to support the argument that Section 6 and Section 8 are mutually exclusive with respect to EPA implementing regulations governing a given product. The Agency believes the Act and its legislative history demonstrate conclusively that EPA's authority to regulate products under each Section is independent of the other. Therefore, there is no reason to believe that a product cannot be subjected both to noise emission regulations under Section 6 and labeling action under Section 8. In fact, implementation of both Sections might be quite rational for certain products where Section 6 action (as limited by technological feasibility) lowers the emission level to the point where the danger of immediate hearing loss to operators is reduced but not eliminated. In these cases, Section 8 labeling may be necessary to inform potential purchasers/users that there is this danger of immediate hearing loss with use of the product. For this reason the Agency disagrees with the assertion that the implementation of mandatory emission standards under Sections 5 and 6 renders a product safe and therefore makes labeling under Section 8 unnecessary. The noise emission standards established under Section 6 are often determined by available technology and the costs of product noise abatement, and therefore the product may not necessarily have been rendered safe and could still be capable of adversely affecting the public health or welfare.

1.2.4 General Criticisms of EPA for Exceeding its Authority

A number of industries (622, 671, 672, 745) commented that the proposed General Provisions went beyond the authority set forth in Section 8 of the Noise Control Act, and were in conflict with the intentions of Congress. The Industrial Safety Equipment Association (ISEA) (745) argued that the provisions were legally unsound and may be unconstitutional under Section 10 of the Administrative Procedure Act (5 USC 706) (2).

Response:

The statutory language in Section 8 of the Noise Control Act of 1972 is fairly clear on the authority and the duty of the Agency to promulgate regulations requiring the labeling of " . . . any product (or class thereof) which emits noise capable of adversely affecting the public health or welfare" and " . . . any product (or class thereof) which is sold wholly or in part on the basis of its effectiveness in reducing noise." The Agency feels the proposed General Provisions are within the purview of Section 8 and are consistent with the intent of Congress as expressed in the legislative history of Section 8.

1.2.5 Miscellaneous Issues

Three other issues were raised by comments from the Ford Motor Company (643), the Compressed Air and Gas Institute (910), and Deere and Company (930).

- Ford contended that Section 8 applies only to new products according to the Act's wording and its legislative history. The Draft Background Document (EPA 550/9-77-253) [5], however, stated that the product need not be a new product.

Response:

The Noise Control Act includes definitions for the terms "product" and "new product". Both terms are used throughout the Act with apparent discrimination. Although the prohibitions of Section 10 apply, with respect to labeling, to "new" (unsold) products (title never transferred to ultimate purchaser), the language of Section 8 explicitly uses the term "product" (any manufactured article or goods or component thereof). The Agency believes that its authority to require labeling under Section 8, therefore, is not necessarily limited exclusively to new products.

- CAGI considered it inappropriate for EPA to propose noise regulations for those products that are exclusively produced for use in environments subject to existing Occupational Safety and Health Administration (OSHA) noise regulations, preferring action under Section 4(c)(2) of the Noise Control Act.

Response:

The EPA has and will continue to coordinate its noise regulatory activities with OSHA and other Federal agencies so as to eliminate conflicting and redundant actions. It must also, however, evaluate the need for regulatory activity for particular products based on all relevant factors, particularly those involving protection of the public health or welfare. It is the feeling of the EPA, therefore, that it is totally inappropriate for it to preclude consideration of a product, as is suggested, based solely on the fact that that product is the focus of another agency's actions.

- Deere and Company felt that EPA was over-extending its authority by possibly justifying the selection of products on the basis of individual ('the public') perceptions.

Response:

Section 8 is quite clear as to the EPA's authority - and nondiscretionary duty - to promulgate regulations requiring the labeling of noise-emitting products capable of adversely affecting the public health or welfare. Notwithstanding the broad product selection authority, the Agency must obviously use additional criteria to determine which particular products, already within the Agency's authority to label, should be considered first for labeling action. The Agency believes that public attitudes toward a product's acoustic performance definitely represent one of many important product selection criteria affecting this decision.

1.3 PROLIFERATION OF PRODUCT LABELS

A number of commenters expressed concern about the proliferation of labels on products (197, 648, 940, 949, 622, 629, 621, 907). The General Motors Corporation (General Motors) (622) and the Association of Home Appliance Manufacturers (AHAM) (629) were particularly concerned about safety labels being over-shadowed by noise labels. General Motors felt that individual products should be examined prior to requiring that a label be placed on a product to determine whether space is available for a noise label.

Numerous groups stressed the need for some coordination between different agencies' labeling programs (589, 590, 907, 949). The Ford Motor Company (907) urged "EPA to become the lead agency in proposing and establishing a Federal Interagency Product Labeling Review Committee with responsibility for achieving the necessary simplification and coordination of the assorted labeling requirements for motor vehicles." Whirlpool Corporation (589) wondered if the government would be able to coordinate and prioritize the total labeling effort.

Response:

Aware of the problems that could result from different Federal labeling actions affecting the same product, the Agency is looking into possible labeling conflicts and the problem of label proliferation. Of course, the seriousness of this problem is a function of the particular product, and so the Agency's analysis of this matter will occur on a product-by-product basis. Where it is possible to avoid these problems without sacrificing the important goals of the Noise Control Act, the Agency will include appropriate language in the product-specific subparts.

1.4 AUDIENCE ADDRESSED

Comments concerning the intended audience stemmed predominantly from industry. Confusion was expressed about the use of the words "prospective user" and "ultimate purchaser" in Section 8 of the Act. Certain industries seemed particularly concerned about EPA's interpretation and its effect on subsequent regulations. Deere and Company (738) offered the opinion that, since the user is most often the purchaser, EPA can direct the program at the purchaser without violating statutory language.

1.4.1 Question of Labeling Individual Products Sold in Bulk to Industry

Bilsom International, Inc. (380), felt that, with respect to their hearing protector product, the label requirements represented a distortion of the intended audience since 95 percent of their purchases are made by large companies who buy products for their employees and not by the individual end-user. Thus it is the company representative who needs noise information the most. These persons tend to purchase ear protectors on the basis of sales literature, consequently a noise label on the product would be of relatively little use. Bilsom also argued in favor of replacing the word "label" in the regulation with the word "notice," allowing greater flexibility in how the information is disseminated.

In contrast, an official of the Environmental Noise Program of Metropolitan Washington Council of Governments (901) stated, with respect to hearing protectors, that it was important to educate both the purchaser and the user.

Response:

The Agency realizes the need to relate its labeling requirements to the methods of marketing and distribution for a particular product. It is also fairly clear that there may be problems caused by the applicability of certain labeling requirements to products sold in bulk to industry. Therefore, the Agency may adjust (on a product-by-product basis) labeling requirements for a particular product or class of products in order to most effectively use existing marketing and distributing procedures.

1.4.2 Imbalance Between Audience Sophistication and Acoustic Information on Label

An acoustical expert (952) stated that present noise labels showing laboratory derived ratings on certain noise attenuating products such as construction materials are useless to engineers or designers in light of the difficulties of rating the many different products. An EPA developed uniform rating method would certainly help (also see Section 3.2 of the Docket Analysis.) In relation to some sound-reducing materials, the average homeowner does not constitute a sizable portion of the market. He noted that in some circumstances, such as ceiling tile, a single number rating might, however, be beneficial to the individual consumer.

Response:

It is apparent that the information on the label, including the noise rating, must be based on the nature of the audience and the ability to convey useful information to the purchaser of the product. These concerns will be of primary consideration in the Agency's formulation of product-specific labeling requirements. The Agency may at times require that notice of a product's noise level be given to the ultimate purchaser in a form other than a label, either in lieu of or in addition to a label. The Agency is not interpreting the word "label" narrowly.

1.4.3 Duration of Notice Requirement/The Case of Rental Equipment

The Chrysler Corporation (672) discussed the issue of the thrust of the original Act with respect to the intended audience: "It appears that the Act was not intended to cover noise labels notifying prospective users for an indefinite period of time after purchase by what may well be a third party." Their arguments are that "prospective user" and "ultimate purchaser" are used interchangeably in Section 8, and that the only prohibited act pursuant to Section 10(a)(4) is removal of the label prior to the sale of the product to the ultimate purchaser. The noise label should thus be necessary only for the ultimate purchaser. They also asserted that EPA should not be allowed to require the inclusion of maintenance information or "tampering" warnings with the product, for the obvious reason of the label's limited duration. The American Rental Association (552, 908) expressed similar concerns with respect to the confusion of ultimate purchaser and prospective user. For their products, the two terms refer to different persons. The equipment rental business is the purchaser, but is the user only if such term refers to the use of equipment as rental inventory. This is clearly an important issue in the case of rental equipment, since this would affect the form a noise label must take. Continued use of their products will lead to label destruction. (Issue of temporary versus permanent labels discussed in Section 5.2 of the Docket Analysis). Based on Section 10 of the Act, in which Congress only prohibited the removal of the label prior to sale, they argue that Congress did not intend for each prospective user to receive notice of the product's noise level.

Response:

The EPA recognizes there is a need for further clarification concerning the distinction between the "ultimate purchaser" and "prospective user" as these terms apply to the intended audience for the labels of certain products. The EPA believes that the terms "prospective user" and "ultimate purchaser" were used with discrimination in Section 8 of the Act, and that the Congressional intent was to require that notice be provided to the users of the labeled product; users being those subject to the noise emitted by the product, or those realizing the effects of the products' noise attenuating capability. Recognizing this distinction, the EPA will pattern requirements for label form and label placement on a product-by-product basis, taking into consideration the possibility that the ultimate purchaser and the prospective user may not be the same person. Where this is the case for particular products, labeling provisions may be specified which call for a permanent label, to ensure that the prospective user is in fact provided the notice intended by Congress in Section 8. In implementing this policy the EPA recognizes the limitations present in the prohibitions of Section 10 of the Act as to the responsibility to comply with the labeling requirements, and the prohibitions concerning removal of labels.

1.4.4 Distribution of High Noise Level Products

The Compressed Air and Gas Institute (910) also expressed concern about the intended audience, particularly with respect to products producing a high noise level but which are sold in very few numbers.

Response:

The product population is one factor that the EPA will consider in selecting products for labeling action. Of course, the Agency's approach to a high noise-emitting product of which only a few units are sold is also affected by the number of persons impacted. In cases where there are considerable third-party adverse impacts, emission regulations under Section 6 might be more appropriate than Section 8 labeling action.

SECTION 2: PRODUCT SELECTION ISSUES

This section addresses those comments to the docket which directly or indirectly suggested criteria or considerations that should govern the selection of products for the labeling program. Of course, the statutory authority for noise-producing products requires the Agency to determine the capability of a product's noise to adversely affect public health or welfare. This separate issue, though mentioned here, was discussed in Section 1.2.2.

This section explores comments about criteria or factors that the Agency should consider in deciding which particular products should be labeled first. EPA cited sixteen regulatory decision factors in the Supplementary Information to the General Provisions Notice of Proposed Rulemaking (NPRM) [6]. Of the nearly sixty separate comments in the public docket that are concerned with product selection criteria, well over half could be included within these sixteen factors.

Some individuals suggested specific products or product classes for labeling action rather than objective criteria. These comments are aggregated within the product-complaint tabulation shown in Section 9.2. Caution must be exercised, however, in interpreting the results of that tabulation.

2.1 PRODUCT SELECTION CRITERIA

2.1.1 Product Noise Level

Five comments were received on the use of the product noise level itself as a criterion for including the product in the program. A retired Bell system engineer and coauthor of a county noise pollution ordinance (227) suggested that all products emitting noise above 45 dB(A) be required to have noise labels. Citizens Against Noise (903) recommended that louder products be given priority for selection. A physician (950) at the Orange County Hearing and Speech Center noted the special importance of considering the noise levels of products to which children are exposed, since their threshold of hearing damage is lower than that of adults. General Motors Corporation (622) asserted that actual noise levels rather than annoyance factors form the basis for product selection, and AHAM (629) urged that the Title IV report, "Report to the President and Congress on Noise", be used to assist in product selection.

Response:

Considering the definition of health and welfare according to the World Health Organization [4] (complete physical, mental and social well-being and not merely the absence of disease and infirmity), and the legislated requirement that the Agency designate and then label any product "which emits noise capable of adversely affecting the public health or welfare", the fact that a product emits noise means it may be considered for regulation. The Agency intends to use the noise level of a product as an aid in determining if a product should be selected for product noise labeling.

The Agency will study the noise levels of products and the health and welfare impact of these levels on a product-by-product basis.

However, other factors such as usuage patterns, affected parties, the numbers of products in use, and others, will be considered when selecting products for regulation which are capable of affecting the public health or welfare. This is further discussed in Section 2.1.7 of this Docket Analysis.

2.1.2 Product Usage Characteristics

Characteristics of product usage received considerable attention from those commenting on product selection criteria. Fourteen respondents alluded to the duration and frequency of a product's operation as an important factor in the selection process. Most of these comments suggested that products in use continuously, such as refrigerators and heat pumps, be given priority for labeling over products used only intermittently, such as vacuum cleaners and hair dryers. The UAW (540) recommended that EPA consider industrial equipment because of the length of the exposure to the individual. AHAM (629) emphasized that home appliances are operated at the discretion of the family member, and "that a direct interaction occurs between consumers and home appliance manufacturers."

Four respondents cited the location of the product as a factor. Two of these mentioned the distinction between stationary and movable products (456,953), while Congressman Elford A. Cederberg (R-MI) (568) suggested that noise outside the home rather than that of household appliances be the major target of governmental activity.

A few comments referred to the number of people affected as being a selection criterion. The Compressed Air and Gas Institute (910) cited the low exposure levels of some of the products of its members, and the Orange County Hearing and Speech Center (950) emphasized concern with noisy products to which many children are exposed. (Also see 59, 176, 235, 504, 529, 553, 633, 953.)

The Metropolitan Washington Council of Governments (COG) (901) also thought that the number of persons exposed to a product's noise should affect product selection. In addition, COG mentioned the noise level, frequency of use, useful life, and product cost as other important factors. In other words, COG feels the product which is used and heard by more people, has a higher noise emission level, is used for longer periods of time, will last a greater number of years, and is more expensive should represent a higher priority for labeling action.

Response:

The Agency will consider product use characteristies such as: product location; extent of population exposure to its noise; operating life and so forth, as aids in selecting products for regulation under Section 8.

These factors all develop information that aids in determining the capability of a product to adversely affect the public health or welfare.

These factors, among others, are further discussed in Section 2.1.7 of this Docket Analysis.

As mentioned in Section 2.1.1, the Agency uses the World Health Organization [4] definition of health, and does not intend to limit its regulation of produces to only those that may produce hearing damage.

2.1.3 Effects of Noise Emissions

Comments regarding the effects of noise were frequently raised relative to product selection. Most of these centered on the need for EPA to keep health and welfare matters at the forefront in its deliberations, with particular attention granted those products which might have harmful noise levels. Respondents in the health professions often voiced such concerns, noting the need for health warnings on some products and pointing out the secondary effects of chronic tension and psychological disturbance caused by some noise sources (211, 579, 913, 927). (See Section 9-3.) A number of industry representatives including The Hoover Company, The Kirby Vacuum Cleaner Company, the Vacuum Cleaner Manufacturers Association (VCMA), the Home Ventilating Institute (HVI), and the American Rental Association (648, 906, 651, 740, 908), argued that products they deal with had not been proven hazardous to the public health or welfare; therefore, they should not be included in the labeling program. Other commenters stressed the need for EPA to focus on products having adverse health and welfare effects (622, 910). Sears Roebuck and Company (709) felt that only those products whose noise level is detrimental to health or welfare be included because of the undue burden otherwise placed on the manufacturer.

Reponse:

This issue was responded to in Section 1.2.2.

2.1.4 Public Attitudes

The Outdoor Power Equipment Institute (OPEI) (590) directly objected to the use of public attitudes toward product noise as a selection criterion, contending that attitudes are too "emotional" and "subjective." OPEI opted instead for scientific measurements of noise levels. Deere (738) felt that the variability and subjectivity of public attitudes would render their application as a criterion difficult. The VCMA (651) expressed concern over the negative publicity given to vacuum cleaners in the EPA public hearings, fearing that this publicity would adversely affect public attitudes on the need for noise labeling their products. The Hoover Company (648) cited industry surveys showing little concern with noise by prospective purchasers of vacuum cleaners.

Response:

Because the protection of the public health and welfare is at the forefront of the noise labeling program, public attitudes and reactions regarding the noise levels of products represent solid and important criteria for EPA's product selection. EPA agrees that product noise levels alone mean little when isolated from their health and welfare effects.

2.1.5 Voluntary Actions by Industry

Several industries suggested that EPA not choose products for mandatory labeling if the industry has an ongoing voluntary labeling program or proposes an effective program for the future. International Snowmobile Industry Association (ISIA) (905) and The Air Conditioning and Refrigeration Institute (ARI) (902) each explained their respective industry's voluntary noise testing programs which, they asserted, could serve as examples of adequate voluntary noise programs with minimal EPA alteration and involvement.

Response:

The Agency's position on voluntary labeling programs was discussed previously in Section 1.1.1.

2.1.6 Third-Party Effects

Eight comments addressed the problem of product noise effects on third parties as it relates to the choice of labeling a product or regulating its noise emission properties. The Minnesota Pollution Control Agency (953) testified that EPA should categorize products into those affecting: "the user only," "the receiver only," and "both". Several citizens supported the idea that products whose noise significantly adversely affected third parties should be subject to regulation rather than labeling (107, 344, 425, 504, 535, 935).

ARI (902), referring to the Draft Background Document for Product Noise Labeling - General Provisions (EPA 550/9-77-253) [5], questioned whether its industry's products were considered the type in Category C that might affect third parties and thus be considered for noise regulation instead of labeling.

Response:

Since the decision on whether a product should be subjected to noise labeling action or not-to-exceed noise emission regulations involves a careful analysis taken on a product-by-product basis, the Agency cannot state what products will be considered for each type of action in the future. Therefore, the Agency struck from this Background Document the erroneous generalization included in the Draft Background Document (EPA 550/9-77-253) [5], that "Outdoor equipment in Category C . . . is not a candidate for labeling; if it were very noisy, it would be a possible candidate for standard-setting regulation."

2.1.7 Other Considerations

This subsection summarizes a number of comments that pertained either directly or indirectly to the selection of products for labeling.

The Compressed Air and Gas Institute (CAGI) (910) argued that no useful purpose would be served in individually labeling products used in a work place already subject to OSHA standards for noise at the worker's ear, a standard that incorporates the whole work environment.

CAGI and ISIA (910, 905) urged EPA to set forth clear criteria in the regulations for product selection. John Deere and Company (930), while not specifying selection criteria, recommended consideration of products on a case-by-case basis. Deere (738) later urged the development of objective criteria, preferably quantitative, but it could not specify classes of products appropriate for labeling. Similarly, an attorney (621) urged individual consideration of products in terms of noise characteristics, testing procedures and labeling susceptibility in lieu of general criteria.

One citizen (247) took the broad view that all products with electric motors should have noise labels. The Acoustical Society of America (ASA) (333) suggested that products with sound-level controls, such as TV's and stereos, should not be labeled.

Two academic hearing specialists, commenting jointly (405), suggested that EPA delay labeling products with particular characteristics, such as tonal components and intermittency.

Several respondents, mostly from industry, indicated that products which are components of other products or which operate in varying contexts or environments pose special problems and should not be subject to noise labeling (660, 907, 922, 952). An acoustical consultant (952) suggested a phased program of labeling, selecting the more easily-rated products such as household appliances first, and moving on to complex and component products later. An official from the Minnesota Pollution Control Agency (953) preferred a strong program with only a few products being labeled to a weak one covering many products.

Response:

The Agency's consideration of these and other product selection criteria does not involve questions of its statutory authority. It is evident from Section 8 of the Noise Control Act that the Agency has a nondiscretionary duty to designate and label noise-producing products found to be capable of adversely affecting the public health and welfare, and any products sold on the basis of their effectiveness in reducing noise. The original 16 factors cited in the Notice of Proposed Rulemaking (NPRM) (42 FR 31723, published June 22, 1977) [6], and those suggestions offered in the public docket, have been assessed, rewritten, and augmented. There are now at least 20 criteria that EPA will use in deciding which products it will consider for noise labeling among all those products within its authority to label.

While the Agency will consider these and other factors in selecting products for labeling action, there will be no firmly established criteria. Since the decision to label could be made on any one factor, a mathematically precise formula to determine if noise labeling of a product will or will not be required is virtually impossible. The Agency welcomed the above comments and will give them due consideration in the process of determining what products should be labeled first.

The following list represents those factors which the EPA will use in deciding on the products it will consider for possible noise labeling regulatory action.

Criteria for Selecting Products as Initial Candidates for Noise Labeling

(The order in which these factors are listed does not necessarily represent their relative importance in the selection process.)

1. (For noise producing products) Is the product noise level sufficiently high to be potentially capable of producing an adverse health or welfare impact?

   (For noise reducing products) Does the product have a noise reducing capability and is the product sold wholly or in part on the basis of this capability?

2. Is the product used in a location or in a manner that makes an adverse health or welfare impact possible?

3. Is there a potential for the product to be misused? (e.g., aerosol operated horns in a crowed, decorative ceiling tile used as sound absorbing ceiling tile).

4. Does the product noise affect a large number of people?

5. Is the noise from the product likely to impact more non-users (i.e., third parties) than purchasers/users?

6. Is the product used by the purchaser or household members, and does the adverse noise impact of the product fall primarily on the purchaser or household members?

7. Are there large numbers of the product types in use?

8. Are there large numbers of the product types being manufactured/sold?

9. Is there a significant range in the acoustic performance from model to model?

10. Is there a high frequency of purchase so that purchasers have the opportunity to use the labeled noise information often in making a purchase decision?

11. Do the future trends in the product's population, design, or use suggest noise labeling benefits?

12. Do purchasers desire a quieter noise producing or more effective noise reducing product?

13. Can the acoustic performance of some or all models of the product be improved?

14. Is there currently a lack of acoustic information?

15. Would Federal labeling be a significant improvement on any existing product noise labeling?

16. Would labeled noise information be useful to purchasers/users, and Federal, State and local noise ordinance enforcement organizations?

17. Is it desirable for EPA to augment existing or planned noise emission/noise attenuation standards by labeling a product with noise information?

18. Are the acoustic data necessary to the development of product noise emission/attenuation standards currently available?

19. Would the prospect of Federal labeling promote voluntary labeling by manufacturers?

20. Is there a readily available measurement methodology for the product types?

The EPA will conduct pre-regulatory studies to develop data information concerning these factors for the products or product classes that it selects as potential candidates for labeling.

2.2 NOISE-REDUCING PRODUCTS

Although noise-reducing products are discussed in other sections in conjunction with various issues, there are certain matters raised by commenters concerning these type of products which are not addressed elsewhere.

Only a few commenters actually suggested noise-reducing products for labeling action. Products mentioned and the number of respondents are listed below.

Acoustic tile (2)
Ear protectors (2)
Barrier devices (1)
Walls in new homes (1)
Wallboard (1)
Acoustical doors (1)
Aluminum doors and windows (1)

A number of commenters cited problems in developing a descriptor, rating scheme, or testing methodology for specific product classes. Manufacturers of acoustic tile, mufflers, and fiberglass (641, 652, 631) - as well as acoustical engineering firms (147, 952) - strongly emphasized the difficulties involved in using a single descriptor to characterize the noise reduction capabilities of a product. One factor cited was the differences between two descriptors presently used by the construction industry, the NRC (Noise Reduction Coefficient) and the STC (Sound Transmission Class) in the properties they described, and thus the impossibility of choosing one over another. A new descriptor would create more confusion considering the acceptability of these two descriptors, according to one commenter (641); and one manufacturer (631) contended that the average purchaser could not even judge the significance of these two common descriptors or the noise isolation class (a single number rating of noise reduction).

A second factor mentioned as working against the concept of a single descriptor is the interdependency between noise-reducing products and their environment (743). A spokesman for Kodaras Acoustical Laboratories (647) expressed serious reservations about labeling a product whose acoustical performance can vary significantly depending upon its installation. Owens-Corning Fiberglas Corporation and Johns-Manville Corporation (631, 692) also stressed the need to consider the total system in which the product is fitted or used, and advocated the labeling of finished systems. Walker Manufacturing and the Automotive Exhaust Systems Manufacturers Committee (AESMC) (652, 710), commenting specifically on the implications of labeling their products, felt that a single descriptor for replacement exhaust systems was impossible, because each muffler is designed to be used with various makes and models of automobiles - thereby resulting in varying noise reduction capabilities. The Walker Manufacturing Company recommended a "statute sound level" approach for exhaust system parts rather than confuse the car owner with label information. Commenters (610, 710) discussed other problems and prospective solutions associated with exhaust system acoustic evaluation in great detail.

While recognizing the shortcomings of existing noise-reduction ratings (due to manipulation of measurement methodologies and the intervening environmental variables), a partner in an acoustical consulting firm (952) admitted such information would be useful for the individual consumer in the case of some products (e.g., acoustic tile).

Certain comments pertained to the measurement methodologies employed in rating noise-reducing products. Accepted American National Standards Institute and the American Society for Testing Materials standards were recommended for testing purposes by two commenters (631,647), one of whom urged close consultation between EPA and the National Bureau of Standards (NBS) regarding the development of rating schemes and test methodologies. The spokesman for AESMC (652) maintained that muffler labeling could not proceed until a test procedure for determining a noise reduction rating was developed and agreed upon. The spokesman for the Noise Control Products and Materials Association (743) noted that a single number would not adequately describe its members products' noise reducing properties. He urged EPA to consult with a number of established associations in the field to develop suitable rating methodologies.

A final comment relating to noise-reducing products is the assertion that the acoustic tile marketed today are in compliance with the 1972 Noise Control Act, since they have labels providing noise rating information (641).

Response:

These recommendations and observations will prove useful to the Agency in its consideration of labeling actions for noise-reducing products. Of course, the issue of whether or not a product is in compliance with the 1972 Noise Control Act is meaningless until regulations affecting that product are promulgated.

SECTION 3: LABEL CONTENT

3.1 COMPARATIVE ACOUSTIC INFORMATION

The concept of including of comparative acoustic information on the label elicited strong reactions, both negative and positive. Many private individuals and local government officials expressed support for the proposed range data or some other comparative information, and several persons recommended revisions or additional material to improve on the proposed format. A number of persons felt the comparative information was essential to the label's success. In contrast, most industries expressed serious reservations about the use of the range or any other comparative information.

Persons supporting the inclusion of a range indicator usually did so because they felt the noise rating could not stand by itself. Some sort of a scale was often considered necessary to give meaning to the rating. Specific suggestions as to the exact nature of this component of the label varied widely.

One recommendation entailed the construction of schemes utilizing comparisons between dissimilar products (942) (although most commenters endorsed the concept of comparing only within a given product class). The Environmental Management Agency of Santa Clara County (942) and a citizen commenter (706) urged that the noise rating be contrasted with the noise level of another product with which the consumer is likely to be familiar (e.g., a quiet refrigerator). The Secretary of the Illinois Department of Transportation (198) and the President's Office of Consumer Affairs (623) suggested the use of visual effects such as an actual spectrum of noisy products with an indication of where a particular product falls, or the use of a color-coded description which provides a range.

Both the Iowa Department of Environmental Quality (926) and the California Department of Health (948) suggested that the range be related in some fashion to the health and welfare of the consumer. The latter urged that the label cite the values at which certain effects could be expected to occur. A private individual (537) agreed with this, arguing that the level at which speech interference occurs should be clearly indicated on the label.

Recommendations on how the currently proposed range scheme could be improved included (a) the addition of the average noise rating to compensate for extreme values within a product class (166, 623) and (b) the clarification of which pole of the spectrum was "better," or quieter (198). Sears, Roebuck and Company (709) urged that EPA establish a comparative basis fair to all manufacturers involved. The Department of Commerce (745) recommended consideration of its comparative approach in the Voluntary Energy Labeling Program, and suggested that EPA acknowledge its responsibility for maintenance of range data.

Manufacturers and representative trade associations were for the most part very opposed to the incorporation of comparative information on the label. The Compressed Air and Gas Institute (910), Chrysler Corporation (672), and the Motorcycle Industry Council (713) objected to the provision of such information basically because they believe that the EPA has no statutory authority to require the manufacturer to provide this information. The Chrysler Corporation based this argument on Section 8(b), which requires that notice be given of "the level of noise" the product emits. They also felt the rating would force manufacturers to advertise competitive products and could lead to antitrust exposure in certain cases.

A number of companies expressed concern with the difficulties in ascertaining what constitutes a product class. The Ford Motor Company (907) indicated that EPA must establish "suitable" criteria concerning what constitutes a product class before product comparisons that are meaningful can be made. The Counsel to the Power Tool Institute (PTI) (565), Black and Decker Manufacturing Company (577) and the Outdoor Power Equipment Institute (OPEI) (590) all felt that classifying products according to type was very difficult. OPEI particularly stressed the importance of defining the range so that it included products which were truly comparable. The Computer and Business Manufacturers Association (662) argued that all products in a class must have identical functions. They felt they "would not be in a position to define appropriate product classification within (their) industry because of the complexity of product types." The General Motors Corporation (622) mentioned various problems with a noise range, such as the lack of information about the distribution of products across the range, the type of products being considered, the cost of products, and the meaning of the size of the range.

Concerns were also expressed about the general validity of noise information or the ability to update the information at the rate that products are produced and altered. Hilti Fastening Systems, Inc. (671) stated that for their products, roughly "the average time between major product class changes is about the same as the average time for manufactured products to reach the consumer," so that the information can never be up to date. The International Snowmobile Industry Association (548) argued that a range was inappropriate for their products because testing methods are not precise enough and the range is really quite small. The J. I. Case Company (526) felt that requiring a range on the noise label would unnecessarily increase the cost burden on the manufacturer. Other concerns were varied with respect to the effectiveness of the range on the consumer's ability to make decisions. The General Motors Corporation (622) observed that the range gives no indication of the distribution of the products within that range, and Rapistan, Inc. (166) supported the inclusion of the average value for the product classes for that reason. The J. I. Case Company (924) and the Air Conditioning and Refrigeration Institute (902) expressed concerns about the range as misleading the consumer with respect to the availability of products in his area and giving disproportionate weight to a factor (noise) not central to the product's function. Hilti Fastening Systems, Inc. (671) stated that the range "will tend to mislead the unwary or the lazy, who may use it as a crutch in making a poor decision, ignoring more important factors...."

The General Motors Corporation (622) urged that space be left on the label to allow for clarifications in cases where it might be necessary, because "a noise rating set into a noise range will not by itself convey an unmistakable message for all products."

Response:

EPA will retain the comparative acoustic information in the program, although its exact format will be determined on a product-specific basis. Inclusion of this comparative range is essential for a clear understanding of the noise level rating and EPA will endeavor throughout the program to provide the best possible acoustic information to the consumer. Inclusion of the comparative acoustic information lies within EPA's authority for the program. The statutory language of Section 8(b) of the Noise Control Act of 1972 sets forth the minimal requirements for notice of the level of noise of designated products and, further, the range information is considered implicit in such "notice." EPA will address the issue of what comparative information is appropriate for a particular product or class of products at the time EPA proposes and/or promulgates a labeling regulation for that product. Should the Agency require comparative information on a label, EPA will provide such comparative information to the manufacturers and periodically update the information, generally after monitoring and analysis of the non-proprietary data in the reports manufacturers submit as part of their compliance requirements.

3.2 DESCRIPTOR

There was little criticism of the use of a descriptor on the label or of its proposed location. However, a major trade association (902), felt that the possibility of re-rating products following compliance testing made it potentially expensive to include the actual noise measurement on the product rather than in a directory. Fasco Industries (197), argued for a warning on dangerous products instead of a rating.

The general characteristics thought to be important for a descriptor among the respondents were uniformity across product classes, simplicity, and understandability. One manufacturer (924), thought that uniformity across product classes, because of product differences, would be of little comparative value - though he stressed the critical need for descriptor uniformity within a class. Despite this agreement on characteristics, there were different opinions as to the kind of descriptor that best fulfills these requirements.

Several acoustic descriptors were recommended for possible inclusion on the label. In some instances, the respondent (especially in cases of manufacturers) was basically concerned with the descriptor to be used for his particular product, rather than the general utility of a given descriptor. The suggested descriptors are noted below, with the number of respondents suggesting each one given in parentheses. It should be noted that in some cases e.g., sound pressure level, the respondent is referring to the acoustic parameter used to derive the descriptor rather than the descriptor itself.

"Numerical" (5)
Decibels (10)
Noise Power Emission Level in bels (3)
Product Noise Rating in decibels (1)
Sones (2)
L_{eq} (2)
Rating scale, 1-5 or 1-10 (3)
Symbols (2)
Narrative descriptions (3)
Color code (8)
STC and NRC for sound-reducing products (2)
Sound pressure level and sound power level (1)
A-weighted sound power level (1)
"Perceived noise" decibels (1)

The vast majority of commenters supported some type of scale involving numbers which truly showed the capability of the product. There was little support for using symbols, word descriptions, or a 1-10 rating scale.

Response:

None

3.2.1 Decibels or dB(A)

The most popular descriptor seemed to be the basic unit of noise measurement - decibels - with many persons suggesting the A-weighted scale, or dB(A). Manufacturers and private citizens alike were of this opinion. For example, ARI (729) suggested the use of dBAs for home consumer products (Sound Pressure Level at 1 meter), while the Power Tool Institute and Black and Decker (565, 577) advocated the use of bels, the parameter being the Sound Power Emission Level. The Chairman of the Subcommittee on Noise Standards for the Acoustical Society of America (555) argued in favor of the Product Noise Rating (PNR) expressed in decibels, defined as the space average of A-weighted sound level at a distance of one meter from a noise source over a reflecting plane. The Ford Motor Company (907), Outboard Marine Corporation (660), Sears, Roebuck and Company (709), and the Home Ventilating Institute (740) felt the major disadvantage to using dB(A) (or decibels) is the public's lack of knowledge about this unit of measurement.

Two audiologists (405), who suggested using sones, mentioned a number of reasons why dB(A) should not be used as a descriptor:

- The A-weighted decibel is measured on a logarithmic scale that would be difficult for the public to use and understand.
- The A-weighted decibel captures subjective responses to noise more poorly than other calculation schemes.
- The public will have to be further educated about dB(A) or any other rating system and thus a more appropriate descriptor might just as well be used.

- The consumer does not own a sound level meter and is not directly involved in monitoring and enforcing regulations - thereby making it superfluous to increase (their) sophistication concerning dB(A).
- It would be difficult to incorporate in this (noise measurement) unit refinements made in measuring subjective effects of noise.

In contrast to these criticisms of decibels, there were positive points ascribed to their use. First, several persons mentioned that the public already knows about decibels, and any public education campaign would be building on a foundation of knowledge, albeit quite limited. The Chairman of the Acoustical Society of America Subcommittee on Noise Standards (555) claimed we are becoming "a noise conscious people, with frequent contact with A-weighted sound levels of various devices and machines, such as automobiles, trucks, aircraft, etc." An expert in the acoustics field (909) stated that the public could learn to deal with the logarithmic scale - the major problem area in using dB(A)s. A professor commented that the dB(A) rating is already meaningful and could easily be assimilated by the population and that his students quickly learn how to use A-weighted sound level in units of dB.

Second, a descriptor using decibels provides the uniformity needed to permit consumers to learn from individual purchasing experiences across different product classes, whereas a 1-10 rating system would presumably have different dB(A) ranges associated with identical numbers in the case of different product classes.

A third advantage was cited by individuals responsible for enforcement at the state or local level (941, 953). They asserted that having the noise level of a product printed in decibels on the label would help enforcement officials, who need to know the exact noise level and not the range within which the product is located (as would be provided by a 1-10 scale or by symbols).

A fourth advantage of using decibels is that the consumer already knows the actual noise level of the product, albeit under certain testing conditions. However, if another rating scheme such as a 1-10 scale were used, the person would need to know the mechanics of that scale to calculate the actual noise level.

Two people commented that the use of decibels by consumers in their purchasing decisions would help in making them more knowledgeable about noise and more noise-conscious (951, 731). Another commenter (953) stressed the fact that ratings for noise reduction products (e.g., Sound Transmission Class (STC) and Noise Reduction Coefficient (NRC)) can be translated to dB(A) quite easily, and that environmental noise is measured with dB(A) schemes (e.g., equivalent level sound (L_{eq}) and day-night sound level (L_{dn})). Thus, use of the dB(A) can assist in furthering knowledge about these other descriptors, as well as providing greater flexibility in how the product ratings can be used.

Response:

None.

3.2.2 Color Code

The Office of Consumer Affairs (623), the Citizens Against Noise (903, 940), and several persons speaking in a private capacity suggested a color code for the label. A color scheme was thought to be important to facilitate comparison shopping by consumers, and was primarily viewed as an adjunct to a numerical rating, such as in units of dB. One comment (952) referred to the fact that a color scheme would communicate the "noise" message at first glance, rather than requiring a thorough understanding of noise. Several color schemes were suggested, each of which in some way related to the "traffic-light" system of red-yellow-green (928, 903, 940). Two schemes offered are noted below:

1. Red = +70 dBA
   Yellow = 50-70 dBA
   Green = -50 dBA

2. Scarlet = +85 dBA
Orange = 80-84 dBA
Yellow = 75-79 dBA
Blue = 70-74 dBA
Green = -69 dBA

The advantages of a color code are implied in the above comments - namely, the ease with which it can communicate the message. Several commenters noted problems with a color code, however. One person (940) said there could be a problem where two ratings were needed - one at the operator's ear and another some distance away. The Chairman of the ASA Subcommittee on Noise Standards (555) criticized the use of any "disguised rating" (i.e., color or 1-5 scale) - at least when used alone - because the public can and should learn more about noise measurement, because any system using ranges penalizes products at the lower end of the range for which a certain rating is given and unjustly rewards the noisier product, and because the best available information should be given. Disadvantages of color codes or other categorized schemes cited by two experts in audiology (405) were the loss of information, the lack of incentives for noise reductions within categories, and the multiplicity of color schemes required for different product classes plus the resulting confusion.

Response:

None.

3.2.3 Other Suggested Descriptors

Besides color codes, other categorized schemes recommended were rating scales, symbols (though none were specifically mentioned), and word descriptions such as "loud-irritating-quiet" or "very noisy-noisy-etc." (329, 451, 466, 475). The advantages and disadvantages of these descriptors that were mentioned in the docket were basically the same as those cited with respect to color codes.

Another possible descriptor mentioned was the sone (405, 740), which was recommended because:

- The scale is linear and absolute and thus avoids the problem of consumer understanding posed by a logarithmic scale.
- The measure is internationally accepted.
- It would promote understanding of direct measures of the subjective effect of noise.

It was stated, however, that less is probably known about the sone than the decibel.

There seemed to be support from some industries for using commonly accepted descriptors where possible. Thus, the Air-Conditioning and Refrigeration Institute (729 and 707) suggested the SRN (Sound Rating Number) for unitary air conditioners, STC (Sound Transmission Class) for construction materials, and NRC (Noise Reduction Coefficient) for sound absorbing construction materials, noting that consumers could understand a limited variety of descriptors. The Celotex Corporation (641), a manufacturer of acoustic ceiling products, said that any new descriptor would only add confusion in light of the use of accepted indicators. A member of the Acoustical Society of America (333) also gave industry acceptance as the rationale for using STC, NRC, and SRN.

Response

None.

3.2.4 Single or Multiple Descriptor(s)

Besides the choice of a descriptor, another issue is whether or not a single number (or symbol) will be sufficient to accurately rate certain products' noise emission levels. The Automotive Exhaust Systems Manufacturers Committee (652) commented that a single rating for replacement exhaust systems was not possible, because of the complex array of variables affecting noise reduction. The Owens-Corning Fiberglas Corporation (631), a manufacturer of glass fiber sound control materials, said a single number would be meaningless for its products, without information on the mounting and construction technique. He said there are problems even when the standard descriptors, such as NRC, STC, and NIC (Noise Isolation Class), are used because each describes a different property of noise-reduction performance. Mercury Marine Corporation (281) raised the same issue with respect to pleasure boats. They wondered if a single rating would be based on "passby" or "interior" noise.

In contrast to these specific references to products, an acoustics engineer (909) described a general case where two descriptors might be needed. He noted that the A-weighted sound level is the most useful descriptor, but where noise exposure would vary significantly depending on the product's environment, the noise power emission should also be used and could be expressed in bels to avoid confusion. He mentioned a fire alarm as a product where the sound power emission level would be a more accurate indicator of loudness. Another instance where multiple numbers may be needed is the case of variable speed products, such as blenders, where the operating range may be important. Johns-Manville Corporation (692) also recommended against the use of a single indicator.

Response:

None.

3.2.5 Criticisms of Proposed Descriptor Format

Two other descriptor-related issues concern perceived limitations with the proposed label. Two comments (147, 193) stated that the label did not clarify whether a higher number represented a more noisy or less noisy product. The Office of Consumer Affairs (623) commented that the noise rating must be explained. Two companies noted that the word "noise" on the descriptor label has a negative bias (709, 740); the substitution of the word "sound" was suggested.

Response to 3.2.1 through 3.2.5

The Agency decided that as a matter of policy in implementing the noise labeling program, it will use the A-weighted decibel (dB(A)) as the acoustic descriptor for noise emitting products. We believe that its current widely accepted use as a descriptor for sound, coupled with other positive aspects such as uniformity and the ease and accuracy of comparison, outweigh whatever unfamiliarity the public may currently have with this term.

An issue closely related to the acoustic descriptor is the acoustical parameter that the decibel represents; that is sound pressure or power level. Current Federal noise emission standards are in terms of an energy averaged sound pressure level at a designated distance from the noise source. While the A-weighted sound pressure level is an accurate representation of the intensity of noise as it is experienced by the human ear, it is generally unique to the location at which it is measured. The sound power level of a product is the rate at which it releases acoustic energy to the environment and is therefore independent of location. Sound power is calculated from sound pressure measurements at multiple locations around the product.

In keeping with the Agency's intent to provide uniform acoustic descriptors across all product lines, we have adopted sound pressure level at one meter (approximately 3 feet) from the source as the acoustic parameter for noise emitting products. However, we recognize that there will be product-specific situations where a single value noise rating is best obtained under test conditions which favor the determination of sound power and the subsequent calculation of sound pressure. The Agency will determine, on a product-specific basis, the most appropriate technique for obtaining a single value product Noise Rating in terms of A-weighted sound pressure.

The acoustic parameter and descriptor that best characterizes the noise reducing qualities of a product is very much design and application dependent.

Noise reducing products will, in general, be characterized by different acoustic parameters and descriptors than those applicable to noise emitting products. Sound transmission loss and sound absorption are two of the more widely used acoustic parameters. Their respective acoustic descriptors are the decibel and the sabin. However, there are other possible acoustic parameters and descriptors that may be more suitable on a product-specific basis.

The choice of a noise emission or noise reduction descriptor is not specified as a regulatory requirement in the General Provisions for noise labeling. However, there will be a Noise Rating (NR) or Noise Reduction Rating (NRR) for every product designated for noise labeling. The choice of the acoustic parameter and descriptor will be included as a regulatory requirement on a product-specific basis in future subparts to this rule.

One important aspect of the EPA noise label is that the Noise Rating or Noise Reduction Rating is to be determined by a Federally specified and uniform test method. In many cases, the test methods will not be able to simulate the wide variety of actual environments in which the products will be operated, and therefore, the noise levels shown will not necessarily be those which users will actually experience.

The levels will, however, provide an accurate indication of the relative noisiness of similar products when they are tested in a uniform environment that best reflects those important aspects of their acoustic performance.

The EPA believes that the positive aspects of this choice, namely the uniformity, ease, and accuracy of comparison it will afford, outweigh whatever unfamiliarity the public may currently have with this term. The Agency also believes that the use of decibels will accustom the public to the concept of sound level and the use of the decibel notation, the most widely accepted descriptor for sound.

3.3 MANUFACTURER AND PRODUCT IDENTIFICATION

Eight comments were received from industry concerning two general issues: the inclusion of any manufacturer in product identification information and the form of the disclosure. Flents Products Company (904), Industrial Safety Equipment Association (697), Black and Decker Manufacturing Company (577), and Counsel to the Power Tool Institute (565) all objected to requiring identification of the manufacturer and product on the label if it duplicated information found elsewhere on the product. Aural Teçhnology (949) felt that duplication was no problem.

The International Snowmobile Industry Association (548) objected to the inclusion of any of this information because of the added expense this would cause in the printing and application of the label.

Other docket entries raised the issue of whose name should be on the label, the distributor or the manufacturer. The Association of Home Appliance Manufacturers (629) suggested the use of the brand reseller's name on the label. Aural Technology (949) indicated that identification of the company introducing the product into commerce was sufficient, since records kept by this company could be used to locate the original manufacturer.

The Environmental Protection Officer for the City of Boulder, Colorado (951) set forth the difficulties with this issue across product classes. For motorcycles, where component parts such as the exhaust system are manufactured separately, he differentiated between stock items and after-sale items. For stock items the name of the distributor introducing the product into commerce was sufficient because his records could be used to trace the original manufacturer. For after-sale items it would be necessary to include the manufacturer's name, in addition to the name of the manufacturer of the motorcycle for which the part was intended. Hilti Fastening Systems, Inc. (671) expressed concern about including more than one name on a label. Including both the distributor and the manufacturer on the label would cause marketing problems, they felt, though in some cases the distributor's name is more appropriate for a product.

Two comments from industrial concerns (904, 910) raised the issue that the present Act's definition of manufacturer is unclear. Imported products were cited as a problem area by one person, who was concerned about the label format and the difficulties that excessive information might cause. The other industry representative suggested EPA designate a number code that identified manufacturers, so that only a number would appear on the label. An alternative would be to hold the private labeler responsible for the label, rather than the manufacturer, so that private labelers would continue to have control over the label.

Response:

The Noise Control Act of 1972 defines "Manufacturer" as meaning "any person engaged in the manufacturing or assembling of new products, or the importing of new products for resale, or who acts for and is controlled by, any such person in connection with the distribution of such products."

For many products, there are diversities that occur in the packaging, or perhaps even final assembly of the product from its point of origin to the point of sale to the ultimate purchaser. For all products that are required to be labeled under the authority of Section 8 of the Act, the party labeling the product or its packaging will be identified on the label and will be accountable for the accuracy and completeness of information that is required on the label. To the extent that normal commercial practices apply, such as, another party tests the product and provides the test information to packagers of the product, the packagers should protect themselves through legally binding contracts or warranties.

3.4 WARNING STATEMENT ABOUT REMOVAL OF LABEL

Two respondents dealt specifically with the location, format, or existence of the warning statement: "Federal law prohibits removal of this label prior to purchase." The Industrial Safety Equipment Association (744) contended that there is no statutory basis for the requirement that the label contain this statement and maintained Congress would have stated it clearly if that were its intention. Sears, Roebuck and Company (709) feared that such a statement might be read by the consumer to mean that other labels on the product, such as warning or warranty statements, could be safely removed.

Response:

It is the Agency's opinion that the warning statement is a necessary and appropriate means to ensure that all parties in a product's distribution chain are aware of the labeling requirement and to further the objective of informing prospective users of a product's acoustical properties. The Agency believes that the inclusion of this statement stands on its own merits and should not be affected by the unjustified assumption that it will affect consumer's removal of other labels. In addition, the Agency notes that the Noise Control Act, in stating the EPA's mandate in terms of giving notice as to a product's level of noise, was simply setting forth the minimal requirements of the program, and that the prohibition of section 10(a)(4) clearly justifies the inclusion of such a statement.

3.5 LOGO

Six respondents dealt specifically with the EPA logo. One industry (197) opposed the use of the logo entirely, stating that they wished to promote their own company and not the EPA. The Compressed Air and Gas Institute (910) suggested the logo as one possible element that could be eliminated if the label became too large. The Industrial Safety Equipment Association (745) felt the Agency did not have the authority to require information other than that needed to give notice of a noise-reducing product's effectiveness in reducing noise.

Three of these docket entries noted the ramifications behind use of the EPA logo. Aural Technology (949), for example, supported use of the logo but observed that with its use the EPA was implicitly endorsing the information on the label and the product. A member of the Minnesota Pollution Control Agency (953) agreed with this assertion, and suggested substitution of a statement such as "for information purposes only" on the label, so that no EPA endorsement was implied. If the EPA logo was included on the label, he stressed the importance of maintaining the accuracy of the information on the label through the use of effective enforcement procedures.

The French Laboratory (727) expressed the view that use of the EPA logo was not justified if the EPA did not conduct the tests.

Response:

Since the product noise labeling program implements a non-discretionary statutory requirement that is imposed upon the Administrator of the EPA by the Noise Control Act, the presence of the EPA logo on the label indicates that the program is Federally mandated and administered. Although the Agency does not itself test products and develop the data for labeling products, the Agency does have clear responsibility for enforcing the overall labeling program; consequently the logo must appear on the label so that the potential purchaser/user will know that EPA is ultimately responsible for the label. The logo lends authenticity to the data on the label since consumers generally recognize that EPA has the authority and procedures to compel manufacturers to ensure that their labels are accurate.

In addition, the logo on product noise labels is intended to inform consumers that the information provided on a label for a specific product class is, in fact, uniformly applied to all products of the same class.

The logo does not imply that EPA prefers certain products, for all labels will state that it is the Agency that requires that a certain product or class of products be labeled.

In response to the concerns about EPA endorsement of the actual levels indicated on the label, the label has been changed to read "Label required by U.S. Environmental Protection Agency".

3.6 WARNING STATEMENT ABOUT THE EFFECTS OF NOISE

The docket contained some discussion of whether or not specific warnings should be included on the label, relating the level of noise produced by the product to the health of the consumer. Fasco Industries (197), the only industrial commenter, stated that noise labels are only valid for products that exceed a certain level. Those products should not have a rating, but rather a warning which indicates potential adverse effects.

A number of individuals generally supported the use of some type of warning statement on the labels of products whose noise levels are dangerous (126, 159, 238, 255, 322, 929, 931 plus those listed below). Five persons suggested a specific type of warning, four of whom recommended the use of warnings similar to those found on cigarette packages (273, 461, 927, 947). A physician, Dr. Kos (927), stated his support of this alternative due to the difficulty in predicting for different individuals precisely when hearing is endangered. One individual suggested that specific instructions be given in the warning statement, such as "Caution: Hearing protectors should be worn when using this product," if the product emitted noise above the danger level (145).

Recommendations were made to put warning statements on specific products, such as stereos (947). An audiologist (950) expressed particular concern with the noise level of children's toys. Infants, he maintains, are much more sensitive to noise than adults. For children, hearing damage begins at 65 dBA, thus noisy toys should be labeled with a warning to indicate that fact. A rough example of a warning was given: "Beware of the fact that infant's hearing is very sensitive and can be damaged by toys that make a lot of noise, such as this one."

Other persons recommended the inclusion of warning statements concerning the effects of noise on health, but felt this could be accomplished through alternative means. A member of the Environmental Noise Program of the Metropolitan Washington Council of Governments (901) felt this could be done through educational materials. A certified industrial safety consultant (399) urged that warnings be included in an instruction booklet provided with a product.

Response:

While EPA has not made a decision to generally include health warnings on the noise labels, such warnings might be adopted as part of the comparative acoustic information for products whose properties warrant it. This would be determined on a product-specific basis as a particular need for a health warning was ascertained. Among the factors to be considered by the Agency in deciding on the need for such warnings are the product's noise level and its use characteristics, particularly the degree of likely exposure to those groups of individuals highly susceptible to hearing damage such as infants.

3.7 ALTERNATIVE OR ADDITIONAL MEDIA

A number of industries did not explicitly reject the notion of providing consumers with noise level information on their products, but felt that labels may not be appropriate media for doing this. In such cases, they recommended alternative media.

Bilsom International, Inc. (380) indicated that Section 8 emphasized limited Federal involvement as well as limited administrative, economic and technical impact in the accomplishment of the Act's goals. The label, they suggest, is too inflexible a format to accomplish these goals. The form of this notice should be contingent upon the nature of the market, the product, and the consumer. The presently proposed labels, Bilsom observes, are going to cause particular problems with respect to their product, hearing protectors.

Whirlpool Corporation (589) and Amana (936) suggested alternative means of providing consumers with information on noise. Amana stated that noise information for their air conditioners is already available on the product specification sheets. They assert this is sufficient for this particular product since the consumer (who is usually a builder rather than a homeowner) purchases the air conditioner through the specification sheet. Whirlpool Corporation urged the provision of this information in the Use and Care Guides rather than through a label.

Deere (738) expressed the opinion that a brochure format might have greater value for the consumer than a fixed label, since it could be carried while comparison shopping.

Other industries argued that additional information about noise was required, which would not be easily provided on the present label due to space limitations. Bethlehem Steel Corporation (401) stressed the importance of environmental conditions, a factor that should be mentioned in supplementary material provided to the purchaser. They recommended that the label or some supplementary material be required to contain information on how the noise reduction ratings can be used to determine the actual noise level resulting from specific installation conditions. Aural Technology (949) suggested that additional information for their products is necessary and could be made available through accompanying literature and a display case at the store.

The Computer and Business Equipment Manufacturing Association (662) emphasized the necessity of providing information on the test procedures and installation conditions. They advocated keeping this material on public record and referring to its existence and location on the label.

The provision of additional information on noise ratings for products was also advocated by six non-industrial respondents, though there was no suggestion made among these respondents that labels should not be used. Three of these respondents (520, 556, 943) argued that additional information is needed to explain to the consumer the meaning of the ratings, the effect of various noise levels on health, the methodology used to obtain the noise rating and examples of dangerous cumulative noise exposure. The California State Department of Health (948) recommended including several noise ratings, such as a rating obtained near the source, under specified installation conditions, and at a specified distance as well as ratings of similar products. All of these respondents suggested that such information could be made available through brochures.

Other suggestions were made regarding use of additional media which would help to publicize the program. Hawaii Citizens Against Noise (940) urged that noise information be required on advertisements. The Environmental Noise Program of the Metropolitan Washington Council of Governments (663) suggested that a list of product noise ratings and manufacturers be published.

Two respondents suggested that other media be substituted in place of the proposed noise label. One respondent (621) felt that for products with many labels already attached, noise information could be provided in a hang-tag or in the owner's manual. The other expressed concern about the materials used in the construction of a label in terms of additional pollution of the environment. This person suggested that noise information be included on the labels already present on the product (608).

Response:

EPA intends to attain the goals of the program in the manner best suited to the particular acoustical, marketing, and distribution characteristics of the products identified. In some instances, this might involve giving notice of the product's noise level through additional and alternative media. The Agency will not become fixed on a single label content when circumstances warrant a more flexible approach, although maximum uniformity of label format and information across product classes should reinforce the program's acceptability and understanding with the intended audience. EPA will closely consider the need for information and/or formats other than those specified in the General Provisions as it assesses those products that are potential candidates for noise labeling.

3.8 OTHER ITEMS RECOMMENDED FOR INCLUSION

3.8.1 Maximum Noise Levels/Noise Standards

One individual (324) suggested that EPA recommend the maximum noise level for all products in a class, indicating this level on the label.

Four individuals either suggested or assumed that EPA would establish noise standards for individual products which should be referred to on the label. One individual (940) urged that the label include specifically an indication of that point at which a hazardous threshold is crossed.

Response:

The appropriate provision of the Noise Control Act that relates to the establishment of noise emission regulations is Section 6. Under Section 8 the Agency has the authority to label products but not to promulgate maximum noise levels. Therefore, the EPA cannot reference emission regulations on the Section 8 label unless the product has also been the subject of action under Section 6. Regulatory actions under Section 6 of the Act include a labeled notice of the regulatory action taken, and the Agency will carefully consider combining the labeling requirements into a single format for those products identified under both Sections 6 and 8.

3.8.2 Test Methods/Records

Four commenters suggested that some reference be made on the label to the testing methodology used to arrive at the noise rating. Rapistan, Inc. (166) urged that the label refer directly to the parameter used. The Computer and Business Equipment Manufacturers Association (662) felt it was necessary to have public records to back up the data on the label, and that the label refer to the existence of such data. The J. I. Case Company (526, 924) felt that EPA approval of the testing methodology should be clearly stated on the label. A state noise control official (953) observed that inclusion of a statement on the label to the effect that EPA stipulates the test procedures will lead consumers to assume that the rating is certified by EPA. He expressed concern for EPA's credibility. A member of the Acoustical Society of America (333) made the suggestion, with respect to the testing methodology, that distance factors be incorporated in the label.

Response:

EPA believes that an important factor for the success of the program is the simplicity and readability of the label. Inclusion of references to the testing methodology could unduly overcrowd the label while imparting information of little utility to much of the consuming population. However, EPA also recognizes the importance of the ready availability of information on the testing methodology used to obtain the labeled noise rating. The Agency will insure access to such information through media supporting the label or by reference to EPA offices. The exact format of and means of access to this information will be determined by EPA on a product-specific basis.

3.8.3 Effect of Repairs

Two commenters noted that repairing a product might change its noise level, a factor that should be acknowledged on the label. The French Laboratory (954) expressed particular concern about this problem. They stated a change in the noise level of a product due to repairs will most likely lead to an inaccurate noise rating on the label.

Response:

The Agency believes the inclusion of information on the possible effects of product repair would result in a label containing excessive information. Nevertheless, the EPA may find it necessary in some cases to require such information, as for example if experience shows a product's acoustic performance to be especially vulnerable to repairs that occur frequently and soon after the time of purchase.

3.8.4 Product Degradation

Several persons noted that the noise level of products is likely to increase with age, either because of natural product degradation or because persons have altered products intentionally after purchasing them. The latter instance was mentioned in relation to exhaust systems. Several commenters recommended that some sort of acoustical assurance period be given for the noise rating (935). Two audiologists (405, 605), recommended that noise measurements be taken after a specified period of use. Aural Technology (949) emphasized the importance of stating the likely degradation of the attenuation capabilities of hearing protective devices. The Minnesota Pollution Control Agency (953) recommended that EPA bypass this issue at the present time, due to its complexity.

Response:

The question of product noise degradation with time is of particular concern to the EPA. Product noise emission regulations, issued under the authority of Section 6 of the Act, specify a minimum period of time that the product must continue to meet the specified standard, provided it is properly used and maintained. This period has been designated the "Accoustical Assurance Period" or AAP. In the case of labeling, the manufacturer is not required to meet a Federally mandated noise level. Thus, the imposition of an AAP for labeled products, would require a more complex compliance monitoring program by the Federal government for noise labeled products than for Section 6 regulated products due to the possible multiplicity of noise emission/reduction ratings for a given product class.

EPA will monitor products selected into the program for the possibility of unexpectedly rapid deterioration of the product's labeled noise rating, in the event an individual manufacturer might attempt to reduce a product's noise level only temporarily to achieve a better noise rating. If this problem arises the Agency will take appropriate actions to remedy the situation.

3.8.5 Frequency

The American Speech and Hearing Association (913) and two other commenters indicated that the frequencies associated with a product's noise level represents an important factor in determining its effect on persons (708) and should be noted on the label (939).

Response:

EPA has found that inclusion of frequencies associated with a product's noise level in addition to the noise level rating would entail a technically complicated procedure and might result in confusion on the part of the intended audience, as well as a label with an excessive amount of information. The Agency will consider, on a product specific basis, the need/benefit of requiring frequency information and the most effective media for presentation.

3.8.6 Installation Conditions

A number of docket commenters observed that the noise level is often affected substantially by installation conditions, but the noise rating does not account for this. The California State Health Department (948) suggested that this is particularly significant in the case of mufflers, and that some indication should be developed to describe the total noise reduction when products are used in combination. With products such as air conditioners and pool filter pumps, he suggested a multiplicity of ratings, including ratings in specific installation conditions.

The Computer and Business Equipment Manufacturers Association (662) suggested that the label indicate the installation conditions conducive to less noise. Bethlehem Steel Corporation (401) suggested that the label include information necessary to allow the user to predict the noise level of a product once it was installed.

Three commenters dealt with the personal use of noise attenuation devices and the effect of how they are used on the noise reduction rating of those devices, urging that information on this topic be included on the label. The OSHA Division of the Kentucky Department of Labor (414), the French Laboratory (954), and Aural Technology (949) all suggested that the label on hearing protective devices contain instructions on the proper use of such devices, as well as an indication that improper use will result in poor performance. The French Laboratory also observed that consumers often do not know what constitutes a proper fit.

Response:

Because of the variation in noise levels for many products under differing installation conditions, EPA cannot require labels reflecting the noise levels for all possible installations. Products within a class will be tested under specified uniform conditions, so that valid comparisons of the noise properties of similar products can take place. The Agency acknowledges that the labeled noise ratings, while useful for such comparisons, are not necessarily an accurate representation of a product's acoustical performance under a limitless range of possible installation conditions.

SECTION 4: LABEL FORMAT AND GRAPHIC REQUIREMENTS

4.1 SPACE ALLOCATION

Though many suggestions and criticisms were submitted concerning individual elements contained on the label, only a few persons remarked about the general format of the proposed label; that is, the general layout of the elements contained within the label. General Motors Corporation (622) stated that EPA's decision to allocate 65 percent of the space on the label to the noise rating was impractical since no data was offered to support this choice, while the Industrial Safety Equipment Association (744) thought the amount of information proposed for the label was "excessive." However, the overall layout and shape of the label as proposed received general support from persons submitting comments to the docket. An acoustical consultant (952) remarked that "the proposed type of label is very well done."

Response:

In response to comments concerning the allocation of space to the noise rating, the Agency believes that one of the primary goals of any label is visibility of the key information. It was on this basis that space was allocated on the proposed label.

4.2 GRAPHIC REQUIREMENTS

Industries were the principal commenters with respect to the graphic requirements of the label. In general, the comments expressed the desire of manufacturers to maintain control over the packaging of their products. General Motors Corporation (622) argued against the stipulation in the proposed rules that the colors used in the label must contrast both with each other and with the material surrounding the label, a practice which "does not conform to usual label practices, and is restrictive of product design." The Industrial Safety Equipment Association (745) felt that contrast is unnecessary if the label is legible. Both

Charles Machine Works, Inc. (627) and General Motors Corporation (622) stated that the specification of Helvetica Medium as the required character style is too restrictive and would increase costs for manufacturers if they must purchase new type. The Charles Machine Works, Inc., stated that other styles are equally legible and almost indistinguishable from the specified style.

Response:

The Agency has concluded that the objectives of label visibility and uniformity justify, respectively, the stipulation about color contrast and the specification of Helvetica Medium as the required character style. The Agency has not received evidence that these requirements will place undue burdens on manufacturers with respect to printing or packaging considerations.

4.3 SIZE REQUIREMENTS

Concern was expressed about the label size requirement by Flents Products Company (904) and the Compressed Air and Gas Institute (910). The Flents Products Company was particularly concerned about the size requirements with respect to their product, ear plugs; large labels would mean larger and more costly packaging.

Both General Motors Corporation (622) and the Compressed Air and Gas Institute (910) felt that specification of the label format should be made on a product-by-product basis. General Motors stated that "the general approach of a common label format for all products to be labeled is desirable," but felt that this is not possible at present. They requested that the format not be dealt with in isolation from the message the label is to convey, a decision, they believe, that must be based on the product choice.

Response:

The label size requirement will be considered by the EPA on a product-by-product basis and with a conscious regard for the manufacturer's interest in reducing costs. However, the Agency believes it is essential that the label be readily visible and readable. In addition, the consumer should be able to identify at

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Response:

The label size requirement will be considered by the EPA on a product-by-product basis and with a conscious regard for the manufacturer's interest in reducing costs. However, the Agency believes it is essential that the label be readily visible and readable. In addition, the consumer should be able to identify at a glance the presence of a noise rating; this is best achieved through the use of a common label format for all products. While certain product characteristics may require some deviation from the standard format, these cases are expected to be few in number and can be handled in the product-specific regulations by exceptions to the General Provisions.

5.1 LABEL LOCATION

A number of commenters emphasized that the label should be highly visible and generally preferred that it be affixed directly to the product, rather than to the package (275, 901, 916). One person (940) believed the label should be required in all advertisements.

The requirement that labels for hearing protectors be affixed to the individual devices or their carrying cases - though issued in a separate Notice of Proposed Rulemaking (NPRM) [7] - brought forth a number of comments which were also germane to the docket on the General Provisions. Flents Products (904), a manufacturer of hearing protectors, objected to this requirement because many of the firm's sales were to industry consumers, in which case the protectors were shipped in bulk. The firm suggested that EPA differentiate between protectors marketed for individuals and those sold in bulk to industry, where the end-user has little choice about the hearing protector he will use. In addition, Flents objected to the double labeling that might be required in some instances on both the packaging and the insert or its carrying case.

Another hearing protector manufacturer, Bilsom International (380), stated that since the Agency's labeling system seeks to provide information to the average shopper and since the average consumer of hearing protectors is the commercial purchaser and not the end-user, the regulations should allow for flexibility in the means of giving notice. They believed that for hearing protectors, the provision of information in sales literature would have a greater impact on the real consumer and would be more likely to achieve the statutory responsibility set forth by Congress. Bilsom recommended substituting the word "notice" for "label" in paragraphs 211.1.4-8.

Response:

EPA has adopted a flexible position on the issue of the location for affixing the label. The matter will be addressed on a product-specific basis with requirements that a label be affixed on the product, its packaging, or both. EPA will designate the method(s) best suited to the product's marketing and distribution features, given the goals of clear visibility, availability, and readability of the label. Insofar as possible to maintain the overriding goals of the program, EPA will give careful consideration to the burden on the manufacturer such label placement may have.

5.2 LABEL PERMANENCE

Those commenters who addressed the question of label permanency were almost unanimous in favoring a permanent over a temporary label. Commenting on the issue as it pertained to their large agricultural and construction vehicles, the J. I. Case Company (526) felt that "reasonably" permanent labels would make the noise emission levels of a product known to "employees," "operators," and "potential purchasers". Several public officials involved in noise control activities at the state and local level (915, 941, 951) stressed the benefits of a permanent label for facilitating local enforcement efforts, particularly with reference to mufflers and construction equipment. In the case of products which last a long time and are sold as used products, an obvious advantage is the notice provided to the second-hand purchaser.

The permanent label did have one problem, according to one commenter (901) who asserted that permanent labels may not be practical for household appliances, noting the cosmetic problem associated with affixing permanent labels on kitchen appliances. A second commenter (940) disputed this contention, however, by claiming that most appliances are only in full view during their normal operation and that there are plenty of inconspicuous places on a product where a label could be affixed.

One particular product thought to require a permanent label is the automobile muffler, since this would assist enforcement of local ordinances during vehicle inspections. However, the problem of label life is especially acute for this product. One solution mentioned by a local noise control official (941) was that the label information be stamped on the muffler, with the numbers or lettering protruding outward to foil counterfeiting. If a color code was desired, heat-resistant paint could be used.

The Chrysler Corporation (672) felt the lifetime of the label should be restricted to the time-of-purchase by using "prospective user" and "ultimate purchaser" interchangeably in the regulations. An equipment rental company (908) mentioned a major problem in using a label to satisfy the Section 8 requirement that notice be given to the prospective user. Because of continued use, repair and rehabilitation, and resale of certain tools, noise labels would frequently be destroyed. He wanted assurance that rental agencies would not be required to maintain the labels.

Counsel for the American Rental Association (552) further articulated this concern, contending that the regulation is unclear about the difference between ultimate purchaser and prospective user; that Section 8 gives the Administrator authority to decide whether notice to the ultimate purchaser is sufficient; and that Congress never intended to require notice to every person who might operate a piece of machinery but only to the ultimate purchaser. If notice to each user was required, then the label would have to be a permanent, embossed metal label. "Periodic reattachment" of paper or plastic labels by the supplier would be impractical.

Response:

Section 8(b)(a) of the Act is explicit in its direction to the Administrator of EPA to "require that notice be given to the prospective user of the level of the noise the product emits . . " The Agency will make a determination, on a product or product class specific basis, as to the permanence of the required label.

5.3 GENERAL COMMENTS

One manufacturer (904) noted the lower costs entailed in printing label information directly on the product or its packaging, in contrast to pasting a separate label on the product. He thought the proposed regulations and background information did not clearly address this question.

Other comments concerned the type of label and its location. A member of a regional planning body (901) opposed the substitution of a salesroom display for a label as a means of giving notice about a product's noise properties. A spokesman for a trade association (590) recommended that additional data (besides the required label information) be provided on a hang-tag attached to the product, while another industry representative (910) believed the choice of label type should be determined on a case-by-case basis. One individual (608) suggested using the existing label, warranty card, or packaging for presenting the noise information instead of mandating the production of "wasteful" labels.

Response:

EPA will determine the precise type of label required on a product-by-product basis, leaving options open for alternative media where EPA finds them best for achieving the goals of the program. In many cases, a label printed directly on the product or package would be acceptable; for other products, a hang-tag could possibly represent the preferred alternative. EPA will carefully examine suggestions for label type on a product-by-product basis and make allowances for special circumstances; it intends to preserve the overall uniformity of the label type, format and location insofar as feasible.

SECTION 6: RATING SCHEMES AND TEST METHODOLOGIES

6.1 ACOUSTIC PARAMETER

One commenter (166) expressed concern about the product-by-product analysis and the possibility of multiple acoustic parameters, claiming that one parameter for noise-emitting equipment and one for noise-reducing equipment would be sufficient. In his opinion, product-by-product differentiation would cause difficulties for both engineers and consumers.

Among the various possible acoustic parameters are sound pressure level, sound power level, loudness and noisiness. The first two parameters received the greatest level of support from the public comments. Some individuals, the Acoustical Society of America (333) and Rapistan, Inc. (166) suggested the use of either parameter - i.e., sound power level or A-weighted sound level - without articulating the conditions under which they should be used.

Other commenters mentioned their advantages (and disadvantages). The primary advantages reported for SPL (Sound Pressure Level), when A-weighted, were (1) its simplicity of measurement, (2) its relationship to the actual sound heard by the consumer, and (3) its recognition and acceptance by at least some of the public. Two disadvantages mentioned were (1) its inappropriateness for products where exposure varies significantly because of movement of the product, extremely different installation conditions, or other environmental factors; and (2) the less than desirable availability of testing labs with anechoic rooms (400).

Several commenters recommended using the PWL (sound power level) (166, 333, 358, 400, 909). A representative of a testing lab (400) stated that in contrast to SPL, the sound power measurement would be more practical in terms of the availability of testing labs, since the test can be conducted in a reverberant, anechoic or semi-anechoic room. An acoustical consultant (909) suggested using the sound pressure level in most cases, but felt both parameters would be needed if exposure varies significantly. The two parameters could be distinguished on the label by expressing the power emission level in bels and the SPL in dBA. In his opinion, by using noise classes and a simple methodology with a reasonable number of microphones, the sound power level can be determined by manufacturers without excessive testing costs. The Acoustical Society of America (555), is in favor of the Product Noise Rating in decibels as the descriptor, which combines the accuracy and reproducibility of a sound power measurement with the "consumer relatability" of an A-weighted sound level measurement in decibels.

Several commenters emphasized the importance of adopting an acoustic parameter that incorporates in some manner the subjective quality of sound (946, 405, 940, 941). Loudness in sones was suggested as a possible parameter (400, 405). Two audiologists (405) recommended the following procedures for calculating loudness: (1) American National Standards Institute Standard (ANSI Std.) S3.4 (Procedure for the Computation of Loudness of Noise); (2) Part B of the International Standards Organization Standard (ISO Std.) R-532 (a Procedure for Calculating Loudness Level); and (3) (ISO Std.) R507 (Procedures for Describing Aircraft Noise Around an Airport). One advantage of these methods, according to the comments, is their capacity for being refined to allow incorporation of subjective effects due to tonal components and sound intermittency.

Two commenters suggested the use of dB(A) sound level readings at a specified distance for most products (951, 953). According to two individuals, the NPRM was erroneous in implying that dBA was a measure of sound pressure level, which they said was not contained in the weighting (953, 281). The advantage seen by a local official (953) in using a "straight dB(A) versus distance scheme" is that enforcement officers can more easily use that information and can help EPA in monitoring the accuracy of product noise ratings.

Response:

The selection of an appropriate acoustic parameter, that is, the quantity measured during testing (not necessarily the quantity presented on the label, i.e., the descriptor), will be made on the basis of that which best characterizes the acoustic properties of the product and which can be determined reasonably by a simple yet accurate test method. This parameter may vary from product to product, but the labeled descriptor will be the sound pressure level in "decibels" at 1 meter unless another distance, i.e., operator ear, is more meaningful to the user/purchaser of the product. (See also the discussion of the related issue of descriptors in section 3-2).

6.2 TEST METHODOLOGIES

Much of the commentary on test methodologies did not bear directly on the General Provisions of the Noise Labeling Program, but rather focused on product-specific considerations that would become important, should the Agency decide to subject those products to labeling action. Rather than list all of these product-specific comments, we have extracted from them general issues pertaining to the program-at-large. The Agency will, however, consider all other relevant methodological issues in the process of formulating product-specific regulations.

6.2.1 Use of Standard Test Methods

There was overwhelming consensus among manufacturers and trade associations that the Agency should adopt standardized methods which have already been developed and are accepted by industry and other knowledgeable parties. One industry spokesman (631) appraised favorably the NPRM's reference to American National Standards Institute (ANSI) standards, recommended the American Society for Testing Materials (ASTM) as another source of measurement methods, and urged close EPA-NBS (National Bureau of Standards) interaction regarding rating schemes and test methodologies. Besides offering a similar suggestion about the use of consensus standards, Kodaras Acoustical Laboratories (647) contended that specific product regulations should reference these standards but not cite them as federal standards, so that they can be kept current without necessitating amendments to the regulations.

In a number of cases, commenters discussed specific standards - either in the context of offering critical analysis or else suggesting one of them as a suitable method for a particular product class. Listed below are some of the products discussed and the appropriate docket identifications. The particular comments may be found in Appendix A.

Pleasure motorboats (281)
Lawnmowers (590)
Snowmobiles (548)
Automotive exhaust systems (424, 610, 652)
Hearing protectors (666)
Power tools (565, 577)
Small noise sources (555)
General - calculating loudness (405)

Response:

Establishing the test methodology to be used in determining the required acoustical data and for compliance testing will be accomplished on a product-by-product basis. In establishing an appropriate test methodology, the Agency will give particular attention to simplicity, accuracy, and repeatability. The Agency will, where possible, specify existing consensus standards such as ANSI, SAE, ASTM, etc. Where consensus standards are lacking or inappropriate, the EPA will solicit the assistance of industry, trade associations, standard setting institutes and other knowledgeable organizations in developing an appropriate test methodology.

6.2.2 Test Facilities

Two distinct issues surfaced in relation to the test facilities, or laboratories, that will be necessary to obtain the required noise measurements. Kodaras Acoustical Laboratories (647) asked who would determine the acceptability of a laboratory, and what criteria would be used in making that judgment. Kodaras recommended the National Voluntary Testing Program and ASTM Standard E548 (Recommended Practice for Generic Criteria) as methods of evaluating testing agencies.

The Outdoor Power Equipment Institute (OPEI) (590) was concerned that manufacturers would have to use (only) EPA-designated test facilities. OPEI suggested that manufacturers be allowed to test products at either EPA-designated testing laboratories or their own facilities, if certified by the Agency. Without such flexibility, they feared excessive duplication of tests, since manufacturers will still perform their own tests. Johns-Manville Corporation and the Noise Control Products and Materials Association (NCPMA) (692,743), raised similar concerns.

Response:

The EPA does not intend to certify test facilities capable of conducting the required acoustic measurements. Rather, the Agency is placing the responsibility for ensuring that the required acoustic data is generated in accordance with EPA-specified test methodology, on the manufacturers. Therefore, the manufacturer is free to use his own facilities or an independent testing laboratory, as long as the Federally specified test methodology is followed. The EPA will rely either on its own test facility or designate an independent laboratory to perform Agency testing.

6.2.3 Simulation of Use-Environment and Related Problems

Two commenters (520, 197) urged that the noise rating reflect the "in-use" noise level and not the level emitted by the product in a "special" laboratory environment. Other commenters (281, 647, 652, 902) cited difficulties in achieving this goal, due to variations in product-use environments. For example, the laboratory ratings for sound reducing building materials do not reflect the actual room environment; and according to one expert (952), they really cannot unless the entire system in which the product is placed is known.

Similar problems in achieving a realistic test environment were mentioned by various industrial commenters. The Outdoor Power Equipment Institute (590) questioned the feasibility of realistically testing products with various attachments and variable speeds (e.g., lawn and garden tractors). Additional considerations pertaining to this product entail decisions about what loads and operations would constitute a realistic test environment for a multi-functional vehicle. OPEI cautioned the Agency against a repetition of the problems involved in the public's interpretation of EPA gas mileage ratings. Mercury Marine (281) gave another example of this general problem, citing the problem of rating the noise level of the engine, without considering the characteristics of the boat on which it is mounted (outboards) or installed (inboards).

Response:

Where the simulation of the use-environment is deemed to be critically important or when it is easily accomplished, the Agency will specify the particular test environment. However, the simulation of use-environment is not a primary goal of the labeling program. The noise rating on the label is intended to facilitate comparative shopping on the basis of products' acoustical performance as determined through a uniform test methodology. The Agency acknowledges that installation or in-use environments can influence the acoustic performance of a product and therefore the rating may not be totally accurate in describing the product's noise-emitting or noise-reducing properties.

6.2.4 Incorporation of Subjective Noise Characteristics

A number of commenters believed it was vital for the noise rating to reflect other factors besides simply the noise emission level. Such factors might be tonal components or duration of the noise (see Sections 3.8.5 and 6.1). Two audiologists (405) discussed this issue and suggested that the labeling program be delayed for products where these and other subjective factors result in an extremely annoying noise source. They believe that there is presently not sufficient information to correct noise ratings for temporal factors (duration and intermittency), and tonal components. But they also note that because usage time is often inherent in the product (e.g., washing machines) and all products within that class require approximately the same time for completion of the function, duration of noise is not really a critical factor for labeling purposes, since the relative values of products would not change appreciably.

Despite the methodological problems barring incorporation of these psychoacoustic properties within the meaning of the noise rating, the two audiologists recommended methods that capture the subjective effects of noise. To inform the consumer about how the noise will affect him or her, they feel the best approach is to employ a "calculation system" which translates physical measures of acoustic properties into reliable measures of the subjective magnitude of sound. (See Section 6.1 for references to methods of calculating loudness.)

Response:

The Agency will strive to use objective measures of a product's acoustical characteristics. Where subjective factors pose a significant problem insofar as the product's impact on the public health and welfare is concerned, and where appropriate noise measurement methods are available, the EPA will seek to establish a methodology capable of capturing the relevant acoustic properties. For example, tone corrections will be incorporated in the EPA-specified method when tonal components associated with the noise emitted by a product are considered significant with respect to their capability to adversely affect public health or welfare.

6.2.5 Miscellaneous Issues

The question of how to arrive at a single value from a series of measurements using different product samples elicited responses from several commenters. One manufacturer (924) believed that the mean value should be used, with some indication of anticipated variation in acoustic performances. Other manufacturers (590,

910) supported the establishment of a reasonable margin of error in individual product compliance with the noise rating. On the other hand, two commenters (940, 941) supported the use of the maximum value of a series of tests so as to provide a margin of safety, compensate for products displaying considerable noise emission variability among units, and assist in local enforcement of noise ordinances.

The Outdoor Power Equipment Institute (590) criticized the requirement that noise ratings be derived from product samples and not from pilot production units. The charge was that this procedure would force expensive production delays, since the assembling and packaging of production units would have to wait until testing was completed and labels were delivered. OPEI claimed its members experienced a lead time of one to two months to obtain labels and contended the delay would cause "severe disruption of inventory and distribution systems."

One industry representative (910), expressed his opposition to testing each product off the assembly line and his preference for using a sample of products. Once the Agency has been satisfied that the test was conducted in an accurate manner, the Agency should not be able to order compliance testing based on products that appear to exceed the established noise level, unless there have been changes in the production process.

Response:

Whether a manufacturer may use production samples or pilot production units for determination of label noise levels will be addressed on a product-by-product basis. To specify at this time that a manufacturer may use one or the other, or both, would restrict the Agency's ability to tailor the testing requirement to the nature of the industry being regulated in future subparts of Part 211. The Agency will, of course, consider the OPEI (590) comment when it promulgates regulations for specific products.

The comment of the industry representative (910) is based on the belief that each product off the assembly line must be tested. This is not true. In the product-specific subparts of Part 211, the Agency's present strategy will require limited testing (in most cases, one test) to determine noise label values. However, because it requires very limited testing initially, the Agency must have the ability to monitor the manufacturer's continued compliance with the regulation. This ability will be provided in product specific subparts of Part 211 through the use of compliance audit testing which is based on the testing of a statistical sample of production units.

6.3 TECHNIQUE OF RATING

Technique of rating means the manner in which the determined acoustic information is transformed into the appropriate acoustic descriptor. Because many comments that touched upon this issue have been discussed in relation to other topics, such as the translation of dB (decibel) values into color codes or the use of maximum test values for rating purposes, there are few submissions remaining that focus solely on the techniques of rating. Thus, no major issues are identified in this particular section.

There were, however, comments to the effect (1) that different rating techniques for different products would only confuse the consumer (520); (2) that rating schemes using comparisons between dissimilar products would be "worthless" (943); (3) that descriptors based on collapsing decibel values into classes based on ranges of decibels would achieve very little in terms of the public's comprehension of the program, while costing consumers a great deal in terms of lost information (405, 555); and (4) that multiple indicators be used (692).

Response:

Although the Agency admits that different rating techniques for different products may confuse the consumer, the broad scope of the labeling program, and the incorporation of many different products within its statutory reach, means that variations in rating techniques may be necessary. Likewise, while the use of comparisons between dissimilar products may appear confusing, certain situations can be imagined where comparative information can best be conveyed in this manner. Finally, the Agency agrees that the use of noise classes in lieu of the actual units of measurement sacrifices a great deal of information and should be avoided to the maximum extent possible. These matters will be addressed in the product-specific regulations.

SECTION 7: ENFORCEMENT

7.1 GENERAL ISSUES

Issues related to EPA enforcement of the noise labeling regulations drew comments from citizens, noise-related interest groups, federal and local government officials, and industry representatives in particular.

Most of the citizen comments in this area called upon EPA to strictly enforce the program and impose strong penalties on industries found in violation of its provisions. Nine comments lent support to tight and rigid enforcement by EPA; none of those originated from industry sources.* In several of these cases it is difficult to determine if the strict enforcement being endorsed refers to the noise labeling program in particular or noise control in general, but the direction of the messages is unmistakable. The Metropolitan Washington Council of Governments (COG) (901) spoke to the need for government oversight of the reported noise ratings, but did mention the possibility of industry self-policing as well. Citizens Against Noise (903) urged that penalties proportionate to the size of the audience affected be imposed for violations of the labeling regulations. A Minnesota state pollution official (953) opted for a strictly enforced program with required labeling for a few products over a weak program with labeling requirements for many products.

On the other hand, four commenters (64, 147, 629, 904) - two from industry, one acoustical engineer and one physician - called for EPA to implement and enforce the program slowly or cautiously to allow sufficient lead time for easy industry compliance. The J. I. Case Company (392) contended that strict enforcement by EPA would not be necessary, since industry protocol and competition would be sufficient incentives for compliance. They suggested that EPA's involvement consist of occasionally checking a product's noise level rating. Johns Manville Corporation (692) suggested that EPA work closely with industry in formulating enforcement rules.

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*The entries not cited in the text are: 60, 77, 382, 384, 940.

The U. S. Department of Commerce (744) urged EPA to make explicit its intentions regarding effective dates of the provision of the labeling program.

A professor of physics at Northern Illinois University (546) suggested an enforcement method that would reimburse the purchaser one-half the purchase price if a product subject to noise labeling had no label or had an incorrect label. The Director of the Division of Air and Hazardous Materials of the Commonwealth of Massachusetts (637) believed that the Federal government should handle noise labeling and emission standards, while jurisdiction over regulation of noise-emitting equipment should rest with the states.

A number of comments, predominantly from industry, addressed some aspects of EPA's general enforcement scheme as set forth in the NPRM. Ford Motor Company (907) objected to much of the enforcement plan as similar to that of the "cumbersome" regulations for medium and heavy truck noise, currently under litigation. Ford expressed a preference for a more flexible certification program for muffler noise such as those in the states of Florida and California. Chrysler Corporation (672), also citing the truck noise regulation litigation arguments, contended that EPA lacked the authority for the proposed enforcement scheme, calling for minimal EPA involvement under Section 8 of the Noise Control Act of 1972. The Industrial Safety Equipment Association (745) asserted that the proposed enforcement provisions magnify the manufacturers' requirements as stated in Section 13 of the Noise Control Act, by requiring manufacturers to admit EPA officers to various facilities, by permitting these officers to conduct inspections, and by requiring the submission of irrelevant data.

International Snowmobile Industry Association (905) suggested that instead of going far afield with all-encompassing regulations, enforcement should focus on the manufacturer's capability to perform the required tests, the results of the noise emission tests, and the auditing of these tests.

The Compressed Air and Gas Institute (CAGI) (910) expressed the view that finding a single product in excess of its labeled noise rating should not constitute a violation of the regulations, and in a similar vein, The Outdoor Power Equipment Institute (590) asserted that EPA should allow a reasonable margin for error in individual product compliance with its labeled noise rating. CAGI preferred the approach in the EPA gas mileage program in which each individual product need not attain its labeled value.

A final general comment was made in reference to the responsibility for maintaining labels. A representative of a group of retailers (591) contended that they should not be held responsible for labels damaged in transit to their businesses.

Response:

Issues concerning specific areas of enforcement are addressed in the following subsections.

However, to answer the above comments, in determining the effective date of any labeling action, the Agency will consider the lead time each individual industry needs to economically bring their products into compliance with the labeling requirements. Lead time adequate to assure product compliance with the requirements will be included in the effective date of an individual labeling regulation, consequently, there is no need for additional lead time preceding Agency enforcement.

The Agency will actively pursue enforcement of each product labeling regulation. However, the Agency's noise labeling program has been developed to use industry competition as an incentive to manufacturers to comply with product labeling requirements for their industry. EPA has, and will, work with industries being studied for possible labeling action; and will study the effective date, test procedures and enforcement provisions separately for each regulated industry or product.

While the General Labeling Provisions are expected to apply to all labeled products, the Agency will make adjustments within an individual product regulation where a general labeling provision, in the Administrator's judgment, should not be applicable to a certain product or industry.

Once noise labeling regulations have been promulgated, the Agency is required under the Act to enforce those regulations. Section 10(a) of the Act makes it clear that the distribution of "any new product . . . except in conformity . . . " with the applicable regulation is a violation. The Administrator may initiate court action for certain types of violations or may issue administrative orders in other cases.

Concerning the comment about the Agency's enforcement scheme, the basic enforcement plan for Product Noise Labeling is the same as that of the medium and heavy duty truck and portable air compressor regulation. It is focused to interfere as little as possible with the manufacturer's business and still give the Agency reasonable assurance of compliance.

Concerning the comment about labels damaged in transit, the person responsible for damage to a Federally mandated label is responsible for tampering.

7.2 INSPECTION AND MONITORING

The inspection and monitoring aspects of the enforcement provisions (Section 211.1.9) elicited a number of comments, including fifteen from industry, one from an acoustical consultant, and one from a Minnesota state official (953). The majority of these comments took issue with EPA's proposed inspection provisions, deeming them unauthorized, unwarranted, or excessive in some manner.

The Compressed Air and Gas Institute, Industrial Safety Equipment Association, Chrysler Corporation, Ford Motor Company and General Motors Corporation (910, 745, 672, 643, 622) each stated that EPA lacked the statutory authority for the proposed inspection and monitoring scheme. Both Ford and Chrysler (643, 672) cited their objections to the truck noise inspection regulations under litigation, which they hold to be similar to those of the noise labeling standards. Rockwell International (633) similarly expressed doubt about the legality of the proposed EPA entry for inspection of facilities and the requirement for shipping products to a central test facility.

Hilti Fastening Systems, Inc., and Bilsom International, Inc. (671, 380) stated that the provision for on-site inspection of facilities is unreasonable, the latter citing the proprietary nature of the firm's products. Charles Machine (627) called for EPA to limit access to manufacturer's facilities to areas relevant to the investigation, with these areas to be specified in writing prior to the inspection period.

The Association of Home Appliance Manufacturers (AHAM), Fasco Industries, and The Air Conditioning and Refrigeration Institute (ARI) (629, 197, 902) each objected to the 24-hour notice requirement as unreasonably disruptive and requested a longer period of notice. As far as the International Snowmobile Industry Association (ISIA) (905) was concerned, their major concern with the 24-hour notice provision was its failure to state specifically that this period was to be one normal business day. ISIA also urged that the provision be clarified to assure that oral notification is used "sparingly" and only given to "responsible management personnel." Rapistan, Inc., (166) suggested that inspection without the 24-hour notice should only be authorized by the Assistant Administrator for Enforcement "if there is evidence that improper manufacturing and testing procedures are being employed by a company." Motorcycle Industry Council, Inc. (713) also suggested that reference to "oral" notice be deleted.

The Association of Home Appliance Manufacturers (629) argued that only finished products should be photographed and inspected for compliance, while The Air Conditioning and Refrigeration Institute (902) objected to EPA's photographing products altogether because of the possibility of a competitor securing the information through a Freedom of Information Act request. The Air Conditioning and Refrigeration Institute also argued that a relatively long notice period should be required when EPA informs a manufacturer that a specific product is to be tested or that a specific test facility is to be used for an EPA-monitored test, because products may be "built to order." Other ARI objections were directed at the tight scheduling of test facilities and the required retention of test records. The Industrial Safety Equipment Association and the Motorcycle Industry Council also expressed their concerns about the recordkeeping requirements (745, 713). The Association of Home Appliance Manufacturers (629) expressed the opinion that manufacturers should not be liable for the costs of EPA investigations of the test methods employed by test facilities.

Bilsom International, Inc. (380) commented that Section 211.1.9(b) overreaches EPA's extraterritorial authority and suggested that EPA need not enter foreign facilities to fulfill the purpose of the regulations. Flents Products Company (904) commented on the lack of clarity in the definition of "manufacturer" for importation purposes (Sections 211.1.1 and .9). The question posed was: Does "manufacturers" encompass "assemblers"?

A state pollution control official (953) opposed parts of the proposed enforcement scheme, asserting they were too lenient. He objected to both the 24-hour notice period before entering a manufacturer's facilities, and the need for a "substantial" infraction before remedial action is taken.

Several comments related directly to the Administrator's authority to order a manufacturer to cease distribution of certain products in commerce - Section 211.1.9(f)(1). General Motors Corporation (622) argued that this provision stands in conflict with Section 11(d)(1) of the Noise Control Act of 1972, since it does not limit the Administrator's cessation authority to orders "necessary to protect public health or welfare". Ford Motor Company (643) expressed an almost identical position. Flents Products Company (904) suggested language be added to the cessation section vesting authority for a "cease to distribute" order clearly and exclusively in the Administrator. Charles Machine Works, Inc. (627) emphasized its belief that the Noise Control Act of 1972 grants EPA no authority to issue a product recall even if the product is in violation of the regulations. The Compressed Air and Gas Institute (910) believes that the power to issue "cease to distribute" orders properly rests with the Federal District Courts and not with the Agency. The Outdoor Power Equipment Institute (590) went further in calling for deletion of the "cease to distribute" provisions, arguing that EPA lacked the statutory authority to issue such orders. The Industrial Safety Equipment Association (745) said the provisions may be unconstitutionally vague, in that the grounds for a cessation order are ill-defined and especially the term "substantial."

Response:

The inspection and monitoring scheme was authorized by the inspection and monitoring provisions of Section 13(a) of the Act and were included in the proposed Noise Labeling Standards - General Provisions on June 22, 1977 (40 CFR Part 211). Both inspection and monitoring provisions were based in part on the legal interpretation of EPA that the Agency was not required to obtain judicial warrants in instances where the manufacturers did not willingly consent to the entrance by EPA enforcement officers upon regulated manufacturers' facilities.

On May 23, 1978, the Supreme Court delivered a decision in Marshall v. Barlow, Inc.,436 U.S. 307, (1978). In that decision, the Court held that administrative agencies must ordinarily obtain search warrants to enter private property for regulatory purposes, absent consent of the property owner.

Accordingly, EPA has revised subsections (b) and (e) of Section 211.1.9 concerning inspection and monitoring provisions to make it clear that an EPA enforcement officer may enter a facility only upon consent of the manufacturer unless the enforcement officer first obtains a warrant authorizing such entry. The final rule also provides that it is not a violation of the Act or the regulation if a manufacturer refuses entry to an enforcement officer who does not have a proper warrant.

Provisions of the regulations which define the scope of the inspector's proper investigation are retained, to assure the manufacturers that both consensual and judicially warranted searches are subject to reasonable limitations.

Another revision to subsection (e) clarifies the Administrator's right, as contemplated by Barlow's, to proceed ex parte (without the other party's knowledge) to obtain a warrant, with or without a prior refusal by a manufacturer to permit entry.

Paragraph (c)(3) was revised to eliminate the mandatory aspects of consent. Those provisions in paragraph (c)(3) that applied to foreign manufacturing facilities have been eliminated, since EPA no longer requires domestic manufacturers to consent to entry. It is still incumbent upon foreign manufacturers, however, to work with EPA to assure that the testing that is performed by such manufacturers is performed in accordance with the regulatory requirements. The EPA cannot satisfy itself of the validity of manufacturers' tests if it cannot monitor them in some manner.

Subsection (f), which specified that the Administrator may issue cease to distribute orders when EPA Enforcement Officers are refused entry or denied reasonable assistance, has been removed from the final rule. Should a manufacturer deny entry where the EPA enforcement officer has obtained a warrant, the Act and this regulation will have been violated, and the Administrator will consider it an option to use the enforcement authorities granted him in section 11 of the Act.

Regarding limited EPA access to manufacturer's facilities, EPA has no interest in entry into developmental laboratory areas or areas not concerned with a manufacturer's activities under the Noise Control Act of 1972. The Director of the Noise Enforcement Division, may request that a manufacturer subject to this Part admit an EPA Enforcement Officer to examine records of tests conducted on label verification products and on product tests under compliance audit testing (CAT); to inspect areas where testing is conducted, where regulated products are stored prior to testing, and to inspect those portions of the assembly line where the regulated products are being assembled.

The provision requiring 24-hour notice has been removed from the regulation since inspections and investigations may only be carried out with the consent of the manufacturer or under a warrant.

The manufacturer concerned with how EPA's photographing of either finished or unfinished products may affect his interests will be able to file a request under section 2.203 of the EPA procedures for Confidentiality of Business Information (40 CFR Part 2 Subparts A and B). The Agency will determine at the time of the request whether the information requires confidential treatment. At this time the manufacturer is given the opportunity to comment on why the material should be treated as business confidential (i.e., proprietary).

As to a manufacturer's liability for inspection and investigation costs, the EPA does not expect any major cost burdens to be imposed on the manufacturers pursuant to inspections and investigations carried out under the final regulation.

7.3 EXEMPTIONS

Of the ten comments that dealt specifically with the provision for exemptions (Section 211.1.10), nine came from industry representatives and one from a noise-related public interest group. All of these comments offered suggestions for changes in exemption provisions or were critical of some aspects of the proposed exemptions.

The Motorcycle Industry Council (713) believed this Section lacked clarity and should be reworded or explained.

7.3.1 Products for Export, Promotion, Demonstration, or Prototype

Both The Association of Home Appliance Manufactuers (629) and The Air Conditioning and Refrigeration Institute (902) objected to the exemptions to be granted for promotional, demonstrator or prototype products not intended for commerce (Section 211.1.10-1(f)), because of improper use that could be made of such products in advertising or display settings. Presumably, the promotional abuse of such untested products could lead to unfair competitive advantages based on inaccurate claims about noise levels.

A representative of the Hawaii chapter of Citizens Against Noise (CAN) (940) testified in opposition to the exemptions for demonstrator and training products, as well as products for export. CAN-Hawaii urged, in effect, that the program be implemented at the early stages of product development.

The Outdoor Power Equipment Institute (590) objected to the requirement that industry apply for an exemption for prototype products due to possible delays in the process. They suggested instead that this issue of exemptions would be more properly addressed in the product-specific regulations. Similarly, Hilti Fastening Systems (671) suggested an automatic exemption for all qualified products not intended for general commercial use. Hilti also believed that the exemption procedure needed clarification as to whether a product under development must be exempted, and at what stage in the development process an exemption must be obtained.

Two commenters (629, 902) objected to the exemption to be granted for promotional, demonstrator or prototype products not intended for commerce because of improper use that could be made of such products in advertising or display settings.

Response:

The only products that would require exemptions under this section are those that are distributed in commerce. The manufacturer need not apply for exemption under these regulations for products that are not distributed in commerce (i.e., do not leave the manufacturer's premises), and need not fullfill any of the requirements of Subparts A or other Subparts promulgated pursuant to 40 CFR Part 211.

Manufacturers who request an exemption under these regulations for promotional, demonstrator, or prototype products, to be distributed in commerce, will be required to demonstrate sufficient necessity, appropriateness, and reasonableness of the request.

Any exemptions granted by the Agency for demonstrator or training products are authorized by the Noise Control Act. The Act specifically authorizes the Administrator to exempt products for the purpose of research, investigations, studies, demonstrations, or training, or for reasons of national security.

The Administrator has the discretion to grant exemptions upon such terms and conditions as he may find necessary to protect the public health and welfare.

The Administrator is not given any discretion under the Noise Control Act in granting exemptions for products intended for export only. No request for exemption for such products is required by the Act; however, they must be labeled or marked to show that they are manufactured solely for use outside the United States.

Application for exemption for prototype products should not lead to delays. Industry need only apply for exemptions for prototype products that will be introduced into commerce. If prototype products are introduced into commerce by the manufacturer in the ordinary course of business for a valid exemption purpose such as product development, assessing a production method, or as a market promotion, no delays in granting the exemptions should be expected. Where the program does not involve lease or sale of the products, the manufacturer need only state the nature of the product's use, number of products involved and demonstrate that adequate record keeping procedures for control purposes will be employed.

At this time no automatic exemptions will be granted in the regulations for any products distributed in commerce except for products intended solely for export. The Noise Control Act requires the Administrator to take into account the public health and welfare in setting the terms and conditions of the exemption. Therefore, it will be necessary for the Administrator to take into account the public health and welfare considerations based on information supplied to him by the manufacturer for the particular product under consideration. However, if the Agency finds during the enforcement of this program that it is advisable to grant an industry-wide exemption for one or more purposes, this exemption and its terms and conditions will be set out and supplied to all manufacturers. Only after gaining some experience in administering this program will the Agency consider whether to grant such an "automatic" exemption.

As to products under development, any non-complying product requires an exemption when it is distributed in commerce. Manufacturers are in the best position to know the time of distribution, and should apply for an exemption at least a month in advance.

7.3.2 Exemptions from: Labeling vs. Testing

Ford Motor Company (643) suggested that an automatic one-year exemption be granted a product should the Administrator fail to respond to the manufacturer's exemption application within 15 working days. Ford and General Motors Corporation (GM) (622) urged EPA to eliminate the automatic retroactive rescission of the export exemption (Section 211.1.10-3(c)) in the event the product is introduced in domestic commerce. To realize this objective, GM suggested that the cited paragraph be changed in keeping with a proposed alteration in the Truck Noise Emission Regulation (proposed amendments to truck regulation, Section 205.5-5(c): 42 FR 27622, May 3, 1977).

The International Snowmobile Industry Association (ISIA) (905) believed that Section 211.1.10 should be rewritten to cover situations where an exemption "from labeling" is warranted, rather than an exemption "from testing," since the regulations establish "labeling" requirements.

Bilsom International, Inc. (380) also focused on the "labeling" versus "testing" exemption aspect of the provisions, suggesting that EPA delete the condition requiring a label for an exempt product "setting forth the nature of the exemption" (Section 211.1.10-4(a)). In their view, this labeling condition would negate the value of the exemption, since the costs of label preparation, which are high, would still have to be incurred.

Response:

The condition requiring a label on an exempt product "setting forth the nature of the exemption", serves a two-fold purpose. First, it puts the consumer on notice that the product is not required to be labeled according to its noise emitting or noise attenuating characteristics. Second, it also notifies State and local officials who may be charged with enforcement of labeling provisions at the consumer level, that the product is not in violation of an applicable EPA regulation.

7.4 TESTING BY THE ADMINISTRATOR

Eight industry spokesmen raised objections to some aspects of the provisions for testing by the Administrator (Section 211.1.11). Several of them were concerned primarily with the costs of the required testing; others focused on the extent of the Administrator's authority to mandate compliance testing.

In addition to these comments, a number of industries (e.g., the Compressed Air and Gas Institute (CAGI), ISIA, and Rockwell International) (910, 905, 633) expressed concern about Section 211.1.11(a)(1) for requiring that products be shipped to a testing facility specified by EPA.

Fasco Industries (197) suggested that the regulation spell out what direct and indirect testing costs would be reimbursed by EPA, while Bilsom (380) requested assurances that EPA would bear the cost of any testing required by the Administrator. CAGI (910) desired full reimbursement of costs for shipping products to EPA testing facilities.

The Association of Home Appliance Manufacturers (AHAM) (629) suggested that the Administrator be required to provide the manufacturer with sufficient advance notice of a decision of mandatory product compliance testing under Section 211.1.11(a)(1) and (2). Ford Motor Company (643) recommended a revision to limit the Administrator's discretion to require manufacturers to provide products for testing, in keeping with a compromise reached in the litigation on the truck noise regulation. Ford also felt that the manufacturer should be allowed to observe EPA testing and to contest an adverse EPA determination on the acceptability of the manufacturer's test facilities.

Johns Manville Corporation (692) recommended the use of industry facilities for testing purposes.

To avoid duplication, the Outdoor Power Equipment Institute (OPEI) (590) suggested that testing occur at either EPA-designated facilities or at the manufacturer's facilities certified by EPA with the choice left to the manufacturer. In the International Snowmobile Industry Association's (ISIA) (905) view, Section 211.1.11 should be rewritten to conform to statutory language regarding the requirement to make products available for testing; ISIA also doubted the legal authority of EPA-personnel to operate a manufacturer's private test facility under Section 211.1.11(a)(2).

The Compressed Air and Gas Institute (CAGI) (910) questioned the lack of clarity concerning testing of premarket products, fearing that a requirement for EPA supervision of such testing would impede new product development and introduction.

Response:

The cost of required testing under Subpart B (Noise Labeling Requirements for Hearing Protectors) (such as label verification or compliance audit testing) or any of the other product-specific Subparts will be borne by the manufacturer. The cost of testing when it is conducted by EPA under section 211.1.11, Testing by the Administrator, will be borne by the Agency except:

- When the EPA requires the manufacturer to ship products to a particular test facility for label verification testing, because the manufacturer has not label verified within a reasonable amount of time. The amount of time considered reasonable will be defined in the product specific regulation;
- When EPA has reason to believe that products would not pass at an EPA designated facility even though they pass at a manufacturer's facility;

- When a notice of nonconformance of the manufacturer's test facility is effective until the facility has been re-qualified; and
- Whenever EPA requires shipment of products to a designated test facility because the manufacturer refused to allow EPA Enforcement Officers with a warrant to monitor a test.

EPA will generally not specify a test facility under any required compliance audit testing unless it has reason to believe that products which pass at the facility used by the manufacturer would not pass at an EPA designated facility. Under these circumstances, the Administrator will provide the manufacturer a statement of his reasons.

When the Administrator designates testing is to be conducted at an EPA facility (or facility under contract to EPA), EPA will pay for all direct testing costs including personnel, equipment, preparation, test site, etc. However, in most cases the manufacturer will be required to pay shipping costs of the products to the EPA designated site.

When testing under 211.1.11 is designated to be conducted at the manufacturer's facility, EPA personnel will conduct such testing using Agency equipment. It is not expected that any direct testing costs will be incurred by the manufacturer under these circumstances.

A manufacturer is always allowed to observe any EPA testing required by this regulation whether it be conducted at an EPA facility, or at a facility under contract to EPA. A manufacturer is also provided the opportunity to request that the Administrator reconsider his determination on the acceptability of the test facility, based on data or information which indicates that changes have been made to the test facility and such changes have resolved the reason for disqualification.

Section 211.1.11(a)(2), concerning the operations of EPA personnel at a manufacturer's private test facility, has been changed to state that the Administrator, when testing at a manufacturer's test facility, will use Agency equipment.

Revisions limiting the Administrator's discretion in the number of products to be tested under Section 211.1.11 of the regulation are amenable to EPA. However, limits that will be placed on the Administrator's discretion will be based on particular industry characteristics such as number of manufacturers, total number of products distributed in commerce by manufacturers and other characteristics which the Administrator may see as appropriate. These limits will, because of their nature, be required to be placed under the individual product-specific Subparts of Part 211. Consequently, Subpart A, section 211.1.11 will not be changed at this time but may be amended in other Subparts.

SECTION 8: ECONOMIC IMPACT

8.1 REQUESTS FOR FURTHER AGENCY ECONOMIC ANALYSIS

A number of oral and written comments to the public docket focused on the issue of the labeling program's economic impact. Specifically, 41 commenters* were concerned about higher prices for labeled products, or increased taxes due to administrative costs.

Several individuals who supported the labeling program commented on the topic of higher costs for consumers. One commenter (919), a factory worker and union official, stated that he would rather see these increased costs passed on to the consumer than to the worker, since quieter machinery is a cost of production that should not be born by the employee.

Several manufacturers (589, 590, 629, 907, 910) called for extensive economic studies by the Agency to determine the labeling program's costs to industry and consumers, in lieu of immediate implementation of the program. The Ford Motor Company (907) stated they could find no evidence in the Draft Background Document [5] or in the Notice of Proposed Rulemaking (NPRM) [6] that the Agency planned to consider the increased costs to the consumer in assessing the expected health and welfare benefits from the labeling program. Therefore, Ford urged a comprehensive cost-benefit analysis of each proposed product labeling action before mandating such action. Ford contended that such an analysis (of impacts on consumers) is required on the basis of Executive Order 11821, as extended by Order 11949 and as construed by OMB Circular No. A-107. Their concern seemed to result from their reading of the NPRM statement that the economic analyses "will not address potential market effects that may be produced as a result of the information provided on the Federally required label....".

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*(008, 027, 028, 029, 042, 043, 057, 068, 070, 072, 094, 142, 167, 214, 252, 253, 299, 301, 328, 356, 360, 370, 373, 404, 426, 454, 468, 572, 575, 592, 597, 603, 614, 621, 639, 681, 697, 914, 922, 923, 933)

This concern was also expressed by the Outdoor Power Equipment Institute (OPEI) (590) along with the Compressed Air and Gas Institute (CAGI) (910). In addition, OPEI thought the Agency's analysis should consider recordkeeping costs.

The Association of Home Appliance Manufacturers (AHAM) (629) claimed the Agency should consider "potential market effects", since the (labeling) program could have a serious adverse impact on manufacturers who not only label their products but also make them quieter. AHAM contended that all economic impacts should be addressed before publication of any proposed rule-making.

General Motors (622) combined their concern about increased consumer prices with several recommendations for minimizing costs: "(1) keep the label simple; (2) avoid change in range reference (if adopted), and (3) allow the manufacturer freedom in the label design and application to his product."

A different approach to cost/benefit analysis was taken by the Director of the Office of Consumer Affairs of the Department of Health, Education and Welfare (623), who believes there should be an experimental stage where a few products are initially selected for labeling and cost/benefit analyses of these actions precede further product selections.

Finally, an economist (955) turned the focus of attention toward the costs of noise, arguing that on-the-job accidents, employee disability claims, and general loss of productivity due to lack of sleep, annoying work conditions, etc., represent excessive costs to society that often can be attributed to noise pollution. He also felt the problem of excessive noise was increasing due to urbanization and that the labeling program would help to make the market mechanism operate more effectively. The overall implication was that the net costs of labeling might be extremely small, or even negative, if noise is reduced through use of the label information.

Response:

The economic impacts of the Agency's Section 8 noise labeling program will be addressed within the product-specific labeling actions to be proposed in the future and not for the total programmatic effort. The intent of Congress to establish the labeling program and to require the labeling of noise-producing and noise-reducing products is evident in Section 8 of the Act and does not warrant a comprehensive cost/benefit analysis.

The analysis of the economic impact of the product-specific regulations will entail a determination of the manufacturer's costs in complying with the labeling requirements. The analysis will therefore focus on testing costs, recordkeeping costs, and product packaging/labeling costs.

In response to the criticism concerning the failure to analyze "potential market effects," the Agency reemphasizes that it will assess the impact of the labeling requirements on manufacturers and product prices that result from the costs listed above, but will not consider possible price increases or decreases due to redesigning of products to attain a lower noise rating or to market shifts produced by the information on the labels. The rationale for this approach is that the noise labeling program does not require any changes in products' acoustical performance or in their markets but simply provides information that may facilitate more informed voluntary market choices by product purchasers.

Finally, the Agency does not believe that an experimental stage is warranted nor permitted by the statutory language of Section 8, which clearly assigns EPA a nondiscretionary mandate to label noise producing and noise reducing products.

8.2 Submission of Cost Data by Industry

Though manufacturers expressed a great deal of concern about the costs associated with the labeling program, very few submissions included specific cost data. Listed below are brief references to these limited cost figures and the relevant docket entry numbers.

- The American Rental Association (908) said a noise label they developed for an air compressor costs $5.00 per label.
- Outboard Marine (660) gave the following cost estimates:
  - Testing and certification = $3,000 per year per model
  - One-time process engineering changes = $2,000
  - Labels and application costs = $9,000 per year
- Aural Technology (949) stated that a pressure sensitive label would cost three cents per unit, while a sample brochure with the label information printed on it would cost 1 1/2 cents per unit. Costs for graphics and preparation of camera-ready copy were $10,000, of which $7,500 were non-recurring expenses.
- Air-Conditioning & Refrigerator Institute (ARI) (902) cited an estimated labeling cost of $1.00 per unit.
- The International Acoustical Testing Laboratories (400) said the standard fee for conducting a sound power test in accordance with ANSI S1.21 is $300 but this figure would be reduced to $200 if fewer frequency bands were taken. A single-number sound power level test would cost around $150.
- Flents Products (904) said an (ANSI) attenuation test costs about $2,000 and added that labeling would add 80 percent to the costs of some of their containers.

In relation to testing costs about which several manufacturers complained, one acoustics expert (909) felt the labeling regulations would eventually result in lower fees, given rapid advances in technology induced by new economic incentives.

Response

The Agency appreciates the submission of these data on testing and labeling costs and welcomes any additional documentation. These cost data will be given due consideration in the Agency's product-by-product economic analysis.

SECTION 9: CONSUMER ISSUES

9.1 PROBLEMS EXPERIENCED IN COMPARISON SHOPPING

The labeling program presumes that consumers will consider the factor of noise in their purchasing decisions, if given the opportunity to do so by having access to information on products' noise ratings.

A number of commenters who were critical of the labeling program maintained that they were capable of exercising their own independent judgment when purchasing products.[a] Some expressed the opinion that they could individually determine the quieter product without noise level data on a label (122, 128, 217); while others felt the market mechanism was sufficient to produce less noisy products, if in fact consumers desired such products (113, 284, 356, 412, 434). One businessman stated that consumers who care about the noise level of products can ask for demonstrations at the point-of-sale (88).

A number of commenters were in disagreement with these general positions. Many commenters supported the program on the basis that it would permit greater consumer choice and would facilitate comparison shopping.[b] Others asserted that they would use the noise-related information to comparison shop if it were provided (448, 601, 617, 931, 943).

According to many commenters, information on product noise levels is generally unavailable. Some persons cited cases where they experienced difficulties in shopping for quiet products.[c] Others (505, 564) stated that they would not have purchased certain noisy products if the package had contained a label indicating the noise characteristics. One commenter (667) who had considerable experience in the acoustics field, claimed that despite his expertise, he confronted major problems in comparative shopping for quiet products. A consumer (943), who testified at the public hearing in San Francisco, complained that she spent considerable time trying to research the topic of household noise but could not find information on the noise levels of certain products. The Ford Motor Company (907) also admitted that, even though the company's advertising in some cases stresses the quiet quality of its cars, interior noise level data are not provided to consumers.

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[a] (43, 123, 177, 217, 364, 591, 923).

[b] (30,238, 363, 595, 730).

[c] (403, 456, 499, 534, 553, 609, 618, 638, 667, 669, 901, 903, 932, 937, 943).

Another point brought out in the docket is that even where industries have developed a voluntary noise labeling program, consumers still are presented with obstacles hindering intelligent purchasing decisions. For example, the International Snowmobile Industry Association (611) explained that their certification program does not, at the current time, provide consumers with specific information about noise levels at the operator's ear. Oral testimony given on behalf of the Air Conditioning and Refrigeration Institute (ARI) (902) indicated the problems a consumer would confront in trying to determine the noise emitted by an air conditioner certified by ARI. The ratings are provided in a directory which costs several dollars. Since ARI's address is not on the label, most consumers would not even know where to go to obtain the directory, if in fact they knew one existed.

Two commenters (431, 644), who expressed support for the labeling program, suggested that merchants be required to demonstrate products on the salesroom floor, thereby providing some direct information about product noise levels. Other commenters (470, 901, 937), however, mentioned the major problem in utilizing this approach - namely, the unreliability of demonstrations due to the effect of the storeroom environment on a product's noise emission properties. Besides noting the impossibility of realistic product demonstrations in storerooms, a Program Manager for an areawide environmental noise program (901) mentioned that product comparisons between stores are meaningless due to variations in ambient levels and a person's inability to recall or remember the precise noise levels of products he listened to previously.

An issue related to the problems consumers face when comparison shopping is the extent to which there exists misleading advertising about product performance with respect to noise properties. Complaints about misleading or false advertising were made by a number of commenters (4, 41, 189, 403, 547). In addition, several professionals in the noise control or acoustic field (952, 953, 954) claimed that some testing laboratories frequently engage in fraudulent or unethical activities designed to cast their clients' products in the best possible light with respect to noise emissions. An acoustics consultant (952) commented at length about the manipulation of measurement methodologies by testing laboratories and recommended that the labeling program include as one of its objectives the elimination of false, unsubstantiated noise-related claims of manufacturers.

Response:

None required.

9.2 FREQUENCY DISTRIBUTION OF NOISE-RELATED COMPLAINTS ABOUT PRODUCTS

Many commenters,* in their letters or oral testimony, identified products which they consider noisy and which they believed should be labeled or otherwise regulated with respect to their noise emission. A tabulation of these products is presented in Table 2-1 for information purposes only. Excluded from this tabulation were comments made on behalf of potentially affected industries or trade associations.

While it would be helpful to have an exact count on the number of persons who actually recommended that a certain product be labeled, many persons simply listed a series of noisy products. Consequently, the tabulation cannot be interpreted as an endorsement for labeling the specified products. However, in most instances the respondent who mentioned noisy products was supportive of noise control.

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*Entries 687 through 720 and 731 through 745 were received too late for inclusion in this frequency distribution.

Table 2-1

Number of Noise-Related Complaints Made About Various Products

Household Appliances			
Appliances	23(26)[1]	Floor polishers	2
kitchen appliances	1	Fluorescent lamps	5
appliances with electric motors	1	Freezers	2
small appliances around the face	1	Garbage disposals	10
Clothes washers	25	Hairdryers	41
Coffeemakers/grinders	6	Meat grinders	1
Dishwashers	47	Mixers	19
Electric brooms	3	Refrigerators	71
Electric scissors	1	Sewing machines	1
Electric shavers	1	Trash compactors	1
Fans	14(22)	Typewriters	6
electric table fan	11	Vacuum cleaners	106
exhaust or hood fan	5	Water softening device	1
floor fan	11		
window fan	1		
Hearing and Cooling Systems			
Air blowers	3	Heat pumps	4
Air conditioners[2]	77	Ventilation equipment	2
Dehumidifiers/humidifiers	3		
Furnaces	2(9)		
forced-air heating units	4		
furnace fan	2		
heat blowers	1		
Products with Sound-Producing Function			
Bird-frightening devices	2	Tape Recorders	1
CB radios	1	Televisions	16(30)
Musical equipment	3	commercials	14
Musak	10	P.A. systems	2
Radios	11	School bells	1
Stereos	16	Sirens	2
Toys			
Air horns	1	Firecrackers	1
"Big Wheels"	7	Model boats/planes	3
Electric trains	1	Toys	3

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[1] Numbers in parentheses represent the total number of complaints for a product class, or the sum of the general product references (e.g., fans) and the specific references (e.g., floor fan, exhaust fan, etc.)

[2] Only five individuals specified central or room air conditions.

Table 2-1 (Continued)

Number of Noise-Related Complaints
Made About Various Products

Surface and Air Transportation

Airplanes	20(26)	Passenger cars	46(68)
Concorde	3	mufflers on cars	12
Military	3	horns	1
Bulldozers	1	foreign cars	3
Buses	13	hot rods/race cars	6
Freight trains	5(9)	Recreational vehicles	2(41)
Whistles	4	snowmobiles	16
Helicopters	1	motor/trail/minibikes	21
Motorboats	8(15)	dune buggies	2
outboard motors	6	Tires	1
Jet-ski	1	Tractors	5
Motorcycles	138	Trucks	41(48)
Mufflers	11	garbage trucks/ compactors	7
		Vans	1

Lawn and Garden Equipment

Blowers	5	Lawn edgers	1
Compost grinders	1	Lawnmowers	86
Garden tillers	2	Tree cutters	1
Hedge trimmers	1	Tree, limb and leaf shredders	2
Lawn and garden equipment	26		

Power Tools

Chain/power saws	36	Power tools	23
Drills	5		

Business/Industrial/Commercial Equipment

Air compressors	2	Highway construction equipment	2
Bridgeport	1	Industrial equipment	5
Coding tower	1	Jackhammer	2
Computerized cash registers	1	Lathe	1
Computers	1	Mill	1
Construction equipment	4	Transformers	1
Drop forge	1		

Miscellaneous

Electric irrigation pumps	1	Pool filter pumps	3
Guns	2	Vending machines	1
Ice cream vendors	1		

Other interesting situations were provided by commenters who opposed labeling but supported noise emission regulations for a particular product, and by the few individuals who complained about a source of noise but opposed Federal action.

The particular products mentioned are grouped into several general classes (e.g., household appliances, heating and cooling systems, etc.). Some general product references such as appliances were recorded in certain instances, but not in the case of complaints about the noise of "traffic," "urban life," or similar generalities. In the case of "motor vehicles," the complaint was recorded under "cars" and "trucks." In many instances there were general references to a product class (e.g., passenger cars) and specific references to types within a class or components (e.g., foreign cars, hot rods, auto mufflers, etc.) Complaints were tabulated separately for both general and specific references; the total number of complaints for a particular class is shown in parentheses in Table 2-1.

Although this list cannot be interpreted in terms of the percentage of the public supporting labeling of a product, it does offer some guidance about perceived noisy products. Of course, an intervening variable affecting the number of complaints about certain products was the mention of possible candidates for labeling in the news stories that may have generated some of the responses. All such news stories, however, did not include references to possible candidate products.

Response:

None required.

9.3 EFFECTS OF NOISE

The issue of determining whether or not a product is capable of adversely affecting the public health or welfare is discussed in Section 1.2.2. That discussion included a review of manufacturers' claims that their products did not have this capability and--at their worst--could only be described as annoying. The comments summarized in this section offer a different perspective in that they represent complaints about the effects of noise pollution. Some of these comments refer to environmental noise in general, while others cite specific products. (For a list of all product complaints, see Section 9.2).

Of the approximately 45 commenters who made reference to the effects of noise on people, 35 cited some aspect of harmful effects from product noise, either physical, psychological, emotional, social, or some combination.*

The extent and variety of harmful effects attributed to noise by these commenters varied widely as did the sources of noise which they claimed to cause these effects. Six of the commenters were from medical doctors, some of whom specialize in audiological areas of medicine (64, 211, 579, 913, 927, 950). The physicians noted such factors as chronic tension for those persons confined to the home, caused by some noise sources, the possibilities of hearing loss (especially in the high frequencies), and the special health problems noise can cause for the very young, the elderly, the nervous and the sick. Several of the physicians--as well as some non-medical commenters--also pointed out that different people react differently to noise; what might be a harmful noise level in some way to one person might have no harmful effect on another. Two of the doctors (913, 927) cited the difficulty in establishing a causal relationship between hearing loss and noise, a point also made by an Iowa State University professor (922) about physiological damage with respect to household noise. One physician (927) stated, however, that experiments to establish such relationships could be conducted.

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*Relevant comments not cited elsewhere in the section are: 119, 262, 278, 281, 410, 471, 485, 502, 514, 529, 537, 556, 586, 589, 612, 645, 674, 675, 678, 680, 901, 903, 906, 916, 923, 938, 940, 944, 949.

On the degree of the harmful effects of noise, a Kirkwood Community College consumer education specialist (929) testified that an estimated 14 million Americans have suffered some type of hearing loss and that many of these cases might be attributed to noise pollution. A representative of a local Iowa education association (939) stated that 7 percent of their districts' students had hearing problems, 40 percent of which are of the serious high frequency type. He asserted that there is a direct relationship between noise exposure and hearing loss in children. Several commenters from the educational professions (485, 939, 916, 929) cited the distracting effect of noise to students' study abilities and its disruption of classroom activities.

Members of the American Association of Retired Persons (AARP) (917) and various trade unions (742, 918, 919, 920), testified to the dangers of factory noise exposure for workers. An AARP representative (917) stated that between 20 and 30 percent of those over 55 seeking employment through AARP have some degree of hearing loss arising from factory noise exposure.

One individual (52) noted the very special effects of environmental noise on professional musicians, requiring adjustments in playing style and in instrument tuning. Commenters (922, 937), citing the harmful effects of noise, emphasized its less obvious impacts of increased stress and tension in daily life.

A number of commenters (211, 471, 502, 514, 529, 645, 674, 675, 916, 938, 944) noted adverse effects attributed to particular products, including air conditioners, refrigerators, dishwashers, vacuum cleaners, office equipment and chain saws. Most of the adverse effects noted consisted of annoyance or interference with conversation or thought, but possible physical hearing loss was cited by physicians for operators of chain saws (913), snowmobiles, tractors, saws, diesel trucks (for mechanics), air compressors and shredders (950).

Response:

None required.

REFERENCES FOR PART II

[1] Federal Register, Vol. 42, No. 120 - Wednesday, June 22, 1977, pp. 31722 through 31728; 31730 through 31738.

[2] Public Health and Welfare Criteria for Noise. EPA 550/9-73-002, July 27, 1973.

[3] Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. EPA 550/9-74-004, March 1974.

[4] "Constitution of the World Health Organization", 1948, 1211 Geneva 27, Switzerland.

[5] Draft Background Document for Product Noise Labeling: General Provisions. EPA 550/9-77-253, April, 1977. pp. 2-15, 4-24.

[6] Notice of Proposed Rulemaking. Noise Labeling Standards: General Provisions Federal Register, Vol. 42, No. 120 - Wednesday, June 22, 1977, pp. 31722 through 31728.

[7] Notice of Proposed Rulemaking. Hearing Protectors: Noise Labeling Requirements Federal Register, Vol. 42, No. 120 - Wednesday, June 22, 1977, pp. 31730-31738.

APPENDIX A

DEFINITION OF ISSUES FROM EACH DOCKET ENTRY

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APPENDICES

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WRITTEN COMMENTS

Docket Number, Name, Affiliation	Comments
77-8-001 Larry Woods, Attorney	1. Asked to be notified about time and place of public hearings. 2. Suggested standards be set on interstate highway construction noise and planned to suggest products for labeling at a later date.
-002 Leona and Karl Wilhelinsen	1. Suggested standards be set on motorcycles, and snowmobiles. 2. Mentioned chain saws and lawn mowers as noisy products.
-003 Richard Grunow	1. Expressed cynicism about public leaders' commitment to environmental protection.
-004 Horace MacMahan	1. Suggested labeling of hairdryers, lawnmowers, window fans, washing machines, refrigerators, and air conditioners and noted misleading advertising claims about noise. 2. Expressed support for program.
-005 Mrs. Peter Hullin	1. Expressed support for program. 2. Expressed concern over lawnmower noise.
-006 Rhonda Beasley	1. Expressed support for program. 2. Expressed concern over noise from air conditioners.
-007 Burt Fisher	1. Expressed opposition to program as an encroachment on individual freedom.

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Docket Number, Name, Affiliation	Comments
77-8-008 John Statler	1. Expressed opposition to program and concern over its cost.
-009 Vann Ellis, Attorney	1. Expressed support for program.
	2. Expressed concern over pesticide pollution from Reserve Mining Corporation.
-010 Joe Aspitarte	1. Requested information on standards for road equipment.
-011 Jack Cirrencione	1. Requested information on program.
-012 Archie Frank	1. Expressed support for noise abatement, expecially freight trains, race cars, unmuffled motors, and motorcycles.
-013 Chester and Edna Darnell	1. Expressed concern over motorbike noise and lack of local noise enforcement protection.
	2. Included a letter fromTexas Environmental Coalition on same problem.
-014 Mrs. W. W. Lynch	1. Expressed concern over noise from motorcycles, trucks and cars, seemingly unmuffled.
-015 Mrs. Arthur Klavans	1. Expressed approval of program.
	2. Expressed concern over noise from musical equipment, T.V., and trucks.

Docket Number, Name, Affiliation	Comments
77-8-016 Charles Wilson	1. Expressed approval of program.
	2. Suggested standards be set on motorcycle noise.
-017 Helen Williams	1. Expressed concern over all forms of environmental noise, especially motorcycles, trucks, radios and stereos.
	2. Expressed disillusionment with government inaction over problem.
-018 Phyllis Roberts	1. Suggested that raising public consciousness of the noise problem should be a first priority.
	2. Suggested standards be set for air conditioners.
-019 Charlotte Ackley	1. Suggested we worry more about noise from factories than about lawnmowers.
-020 Gleen Kiringer	1. Expressed opposition to program.
-021 Parles Ladd	1. Expressed concern over noise from major highways, citing ineffective mufflers.
-022 Daryl Schrader	1. Suggested labeling and reducing noise from motorcycles.
-023 John Cutshall	1. Stated that except for motorcycles and heavy trucks, Augusta, Georgia is a quiet town.
	2. Expressed disillusionment with local law enforcement inaction concerning motorcycle noise.

Docket Number, Name, Affiliation	Comments
77-8-024 Jon Helberg	1. Expressed concern over motorcycle noise.
-025 Robert Northrop, Civil Engineer, City of Trenton	1. Requested information on product noise labeling rules
-026 Kenneth Piercy	1. Expressed interest in noise abatement and concern over local railroad noise, particularly horns on diesel engines.
-027 Dennis Kortman	1. While approving concept of program, expressed opposition to noise labeling because of: a. increased cost to consumer, b. increased government cost to implement program, c. educational problem of teaching public to understand decibel ratings. 2. Expressed view that there are far more pressing problems facing our country than informing consumers of product noise level.
-028 Dodie Wheeler Haus	1. Expressed view that it is not the product, but the unreasonable user that causes greater noise pollution and no amount of labeling is going to prevent the noise problem. Also cited costs to taxpayers and industry.
-029 James Mogan, Ted Richardson	1. Expressed opposition to program because of cost to taxpayers.
-030 Mrs. E. G. Koch	1. Expressed support for program which would permit consumer to weigh cost and noise level when purchasing a product.

Docket Number, Name Affiliation	Comments
77-8-031 Freda Bertaghali	1. Expressed concern over noise from "computer" cash registers made by NCR.
-032 Dan Olsen	1. Expressed approval of program. 2. Expressed concern over noise from motorcycles and trucks, washing machines and suggested labeling them.
-033 Ruth Jubach	1. Expressed concern over motorcycle noise.
-034 Edward Golick	1. Suggested standards be set on motorcycle noise.
-035 Joseph Shepherd, Former Safety Chairman, Union and Management, GAF Corporation, Linden, N.J.	1. Expressed support of any noise abatement program. 2. Expressed concern over auto horn noise, and suggested EPA action. 3. Included newspaper articles on the subject.
-036 Thomas Evans	1. Expressed approval of program.
-037 Thomas Eridson	1. Expressed approval of the setting of standards for noise emission levels. 2. Suggested standards be set for motorcycles and snowmobiles. 3. Expressed disillusionment over state of Minnesota's delay in setting noise standards for snowmobiles.

Docket Number, Name Affiliation	Comments
77-8-038 Allan Callauder, Material's Engineer Astrocom Electronics	1. Requested information on the program.
-039 E. R. Milholen	1. Expressed concern over motorcycle noise.
-040 L. Risnain	1. Expressed concern over noise from buses.
-041 Emmett Joseph	1. Expressed approval of program. 2. Expressed concern over noise from motorcycles, loud cars, and lawnmowers, which have misleading advertisements about noise emission.
-042 Disgusted Citizen	1. Suggested attention be focused on noise from airplanes, trucks and motorcycles, rather than appliances. 2. Expressed disillusionment with money spent on programs that are never carried out.
-043 A concerned, and over-protected consumer	1. Expressed disapproval of program because of cost to taxpayers and because he/she feels that he/she can make decisions for his/herself. 2 Expressed concern over truck and motorcycle noise.
-044 Reba Roberts	1. Suggested labeling of vacuum cleaners, airconditioners and refrigerators. 2. Expressed view that major source of noise is from motorcycles, cars with double mufflers and lawnmowers.

Docket Number, Name, Affiliation	Comments
77-8-045 C. Schuster	1. Suggested rapid passage of noise abatement legislation.
	2. Expressed view that major noise sources are motorcycles, lawnmowers and vacuum cleaners.
	3. Expressed "whole-hearted" support for EPA.
-046 W. M. Wilson	1. Expressed support for noise labeling and abatement.
-047 Mary O'Neal Broida *(Insert into Docket 77-5)*	1. Requested information about effective hearing protectors.
-048 Frank Ecklin	1. Suggested attention be devoted to abating motorcycle and auto noise, rather than appliance noise.
-049 Joe McCartney	1. Expressed view that labels will not be effective.
	2. Suggested enforcing noise levels after products are sold.
	3. Expressed concern over motorcycle noise.
-050 Larry Bernstein	1. Expressed approval of program.
	2. Expressed concern over noise from hairdryers.
	3. Suggested standards be set for motorcycle noise.

Docket Number, Name Affiliation	Comments
77-8-051 Morris Tenenbaum *(Insert into Docket 77-5)*	1. Expressed approval of program. 2. Expressed concern over noise from lawnmowers, radios, stereos, TV's, air conditioners, trucks, motorcycles, autos, dishwashers, garbage disposals, washers, and dryers, vacuum cleaners and furnaces. 3. Noted a NILECJ, LEAA publication on ear protectors on firing ranges.
-052 John Connolly *(Insert into Docket 77-5)*	1. Expressed support for noise labeling. 2. Expressed support for labeling of hearing protectors. 3. Noted effects of noise on professional musicians.
-053 Patrick Holychuck	1. Requested information.
-054 John Race	1. Expressed concern over noise from outboard motors and "Jet Ski."
-055 Robert Casper	1. Expressed concern over lawnmower noise.
-056 Jack Ruefseaun	1. Expressed interest in reducing all noise especially that produced by motorcycles, cars and planes.
-057 Leonard Hernog	1. Expressed opposition to noise labeling because it is costly and unwanted.

Docket Number, Name Affiliation	Comments
77-8-058 James Bogar *(Insert into Docket 77-5)*	1. Expressed opposition to program because it is "ridiculous." 2. Questioned procedures. 3. Also opposed to labeling hearing protectors.
-059 Mrs. David Butler	1. Suggested we look into the "M-4 Scare Away" – a machine that is designed to produce thunderclap explosions to drive away birds.
-060 France Ledford	1. Suggested penalties on manufacturers of products that create noise pollution. 2. Expressed disbelief that noise can be controlled on local level.
-061 Anna Moss	1. Expressed support of noise abatement. 2. Expressed particular concern for loud TV commercials and loud background noise on TV shows.
-062 Mrs. R. A. McDonald	1. Expressed concern over auto noise.
-063 Daniel Shoemaker	1. Suggested elimination of general din (e.g., lawnmowers). 2. Suggested development of better mufflers
-064 Hunter Healhy, M.D. Mayo Clinic, Rochester, Minn.	1. Expressed approval of noise labeling program. Although he believed there is too much government regulation of private industry, he favored noise labeling because his experience as a physician made him aware of the effects of noise.

Docket Number, Name Affiliation	Comments
77-8-064 (Continued)	2. Suggested implementing requirements slowly in order to avoid disruption of industry.
	3. Suggested giving industry some incentive to offer labeling on their own.
	4. Suggested a 1-10 rating scale.
-065 Raymond Mahr	1. Expressed support for the program.
	2. Suggested we concentrate on noise sources most objected to by individuals, namely motorcycles.
-066 Earl Benham	1. Suggested noise labeling of motorcycles, airplanes, lawnmowers, vacuum sweepers, and power saws.
-067 E. A. Pahlke	1. Suggested action be taken to lower noise level of TV commercials.
-068 Shiryl Mastalesh	1. Expressed opposition to labeling because of costs.
	2. Suggested abating airplane and motorcycle noise and enforcement of other pollution laws.
-069 Mrs. Vernon Wall *(Insert into Docket 77-5)*	1. Expressed interest in program and concern over all environmental noise.
	2. Requested information on effective hearing protectors.
	3. Discussed ineffective hearing protectors.

Docket Number, Name Affiliation	Comments
77-8-070 J. E. Lilly	1. Expressed opposition to noise labeling because of cost to consumers and because of belief that public will not understand the ratings.
-071 Unsigned	1. Suggested action on auto and motorcycle noise.
-072 Lawrence Bates	1. Expressed view that noise from appliances is not disturbing, but some auto mufflers and his typewriter are.
	2. Opposed the program because of increased costs to the consumer.
-073 Velma Bredberg	1. Expressed approval of noise labeling.
	2. Expressed concern over noise from her vacuum cleaner and kitchen mixer.
-074 George Christensen	1. Suggested strict control of motorcycle noise.
-075 John Betzo	1. Expressed opposition to noise labeling.
-076 Dorothy Stewart	1. Suggested labeling of: washers and dryers, fans, vacuum cleaners, blenders, air conditioners, stereos, hand tools.
	2. Suggested stronger action on noise from motorcycles, trucks and buses.
	3. Expressed view that labeling will require strict enforcement by local authorities.
	4. Expressed full support for noise program and for EPA in general.

Docket Number, Name, Affiliation	Comments
77-8-077 Dr. Audrey Oaks Oklahoma State University	1. Expressed support for any efforts that will lower environmental noise.
	2. Suggested more rigid controls than now in effect.
-078 Anita Rhein	1. Expressed support for noise abatement efforts.
	2. Cited motorcyles and truck-mounted trash compactors as noise offenders.
-079 James Dickey	1. Expressed support for noise labeling.
	2. Suggested labeling of cars, trucks, and buses.
-080 Mrs. Alice Banner	1. Expressed support for stricter controls on motorcycle noise.
-081 Mary Zaehringer	1. Expressed support for noise abatement.
	2. Suggested lowering of television noise.
-082 Clifford Root	1. Expressed support for labeling program.
	2. Suggested labeling of: vacuum cleaners, air conditioners, typewriters, clocks, fluorescent light fixtures, power drills and saws, electric trains, blenders and dishwashers.
	3. Suggested housing developers disclose the noise reducing characteristics of the walls in new dwellings.
	4. Suggested public hearings in Binghampton, N.Y., inside a shopping mall so consumers can participate.
	5. Wanted to be kept informed on program.

Docket Number, Name, Affiliation	Comments
77-8-083 Mrs. Douglas Nock	1. Expressed support for noise labeling. 2. Suggested labeling of blenders.
-084 E. M. Dunbar	1. Suggested abatement of highway noise.
-085 Unreadable	Unreadable
-086 Harley Reabe	1. Expressed support of noise labeling. 2. Expressed concern about motorcycle, power-tool, lawn and garden equipment, chain saws, and snowmobile noise. 3. Suggested strict noise standards on all above named products with strong penalties for tampering with noise control.
-087 B. M. Rathbun	1. Requested information on the program.
-088 James V. Neely, President James Neely Nuclear Power Consultants, Inc.	1. Expressed opposition to noise labeling program because it would increase cost of products unnecessarily. Suggested that consumers who care about noise levels can ask for a demonstration of a product prior to purchase.
-089 George Morgan	1. Asked for help with local airport noise.

Docket Number, Name, Affiliation	Comments
77-8-090 Esther Schneider	1. Expressed concern over noise from trucks, motorcycles and cars instead of household appliances.
-091 Marietta Smith	1. Expressed concern over noise from trucks, teenager's cars and lawnmowers.
-092 Paul Gritchel	1. Expressed view that noise labels are not needed until other noise and pollution laws are enforced.
-093 Violet Taylor	1. Requested action be taken to abate noise from all electric appliances, especially air conditioners, refrigerators and lawnmowers.
-094 John W. Griffiths	1. Expressed opposition to program as a waste of time and money. 2. Suggested studying motorcycle noise.
-095 Syma Talertic	1. Expressed concern over noise from car radios and motorcycles. 2. Expressed displeasure at the existence of many electric appliances.
-096 Philip Reitter	1. Expressed support for noise abatement efforts. 2. Suggested that highway noise be abated by: a. appropriation of more funds for noise research efforts; b. adoption of a policy that all Federally funded highways be designed with noise control as a major construction priority; and c. reducing the speed limit for trucks.

Docket Number, Name, Affiliation	Comments
77-8-097 Dr. Stephen Konz Professor of Industrial Engineering Kansas State University	1. Suggested adoption of dBA as the noise rating measurement. 2. Included two articles on appliance noise.
-098 Sam Earl Esco, Jr.	1. Expressed support of program. 2. Requested any action to quiet neighbors' lawnmowers and air conditioners.
-099 Lloyd Doyle	1. Expressed disillusionment with local law enforcement's lack of action to quiet motorcycles and cars.
-100 Sherwin Wood	1. Expressed support for "all kinds of noise abatement." 2. Expressed concern over noise from air blowers on his gas furnace, chain saws, ice cream vendors, and lawnmowers.
-101 Lester Moore	1. Expressed the view that the Agency was not authorized by law to establish noise regulations.
-102 George Hinsdale	1. Expressed the view that noise from motorcycles, hot rods and minibikes should receive greater attention than household noise.
-103 Mrs. Herbert Layman	1. Expressed approval of noise labeling.
-104 L. C. Veterseher	1. Requested that the Agency influence manufacturers to produce quieter motorcycles, RV's, chain saws, lawnmowers, dishwashers, powerboats.

Docket Number, Name, Affiliation	Comments
77-8-105 Unsigned	1. Commented negatively about the proposed labeling program.
-106 Eilean Brain	1. Suggested that motorcycles be considered for labeling. 2. Requested more rigid standards for all types of pollution in order to protect her rights.
-107 Fernando Curth	1. Suggested that the dividing line between what should be labeled and what should be regulated is whether the noise has third-party effects. 2. Suggested standards be set on noise from lawn and garden equipment.
-108 Norman Quinn	1. Requested stronger noise abatement action. 2. Supported noise control projects.
-109 Phil Brown	1. Expressed approval for noise labels. 2. Requested action on railroad horn noise.
-110 Leola Edgerton	1. Suggested labeling of refrigerators with particular reference to an Amana model.
-111 Mildred Guinessy	1. Expressed support of noise labeling and suggested labels on air conditioners, lawnmowers, and vacuum cleaners.

Docket Number, Name, Affiliation	Comments
77-8-112 Mrs. Clark	1. Expressed concern over noisy mufflers and office noise.
-113 Joseph Anderson	1. Expressed opposition to noise labeling in the belief that the market place will take care of noise standards.
-114 Margarette Gallagher	1. Expressed concern over noise from cars, motorcycles, and the kitchen in her retirement hotel.
-115 A. Mauk Michigan State Police	1. Expressed view that concern over the noise levels of dishwashers and air conditioners is nitpicking. 2. Suggested action to quiet motorcycles, snowmobiles, outboard motors, chain saws, trucks, drop forges and airplanes, in that order.
-116 Morris Barnes	1. Asked if motorcycle and R.V. noise has been considered.
-117 Albert Mastee	1. Expressed concern over noise from a local factory and disillusionment that local pollution control center will take no action.
-118 Paul Dici, Editor Outdoors Magazine	1. Expressed view that noise labels are ludicrous in light of motorcycle noise.
-119 Sally Ann Hutton	1. Expressed support for the program. 2. Noted deleterious effects of noise on the quality of life.

Docket Number, Name, Affiliation	Comments
77-8-120 David Benforado, Supervisor Enviornmental Legislation and Regulations, 3M Company	1. Requested information on program and Office of Noise Abatement and Control.
-121 Mr. and Mrs. F. Miller	1. Suggested hair dryers be labeled.
-122 C. B. Link	1. Expressed opposition to noise labeling because of bureaucratic waste and belief that consumers can now buy quiet products using their own intelligence.
-123 Kenneth Young	1. Expressed opposition to all regulations because he is now capable of making an informed decision in the marketplace and because noise level of products makes no difference.
-124 Susan Britt	1. Suggested noise labeling of lawnmowers and blowers. 2. Asked what can be done on the local level about noise.
-125 William Hering	1. Expressed disillusionment over local government unwillingness to do anything about motorcycle and chain saw noise.
-126 Mrs. Norman Solomon	1. Expressed support for noise labeling. 2. Expressed view that manufacturers should control noise or put warnings on products. 3. Requested correspondence about noise issues with the Agency.

Docket Number, Name, Affiliation	Comments
77-8-127 John Critchley	1. Expressed support for noise labeling. 2. Requested action be taken to quiet: motorcycles, snowmobiles, outboard motors and hot rod cars.
-128 Harry Freeman	1. Expressed view that consumer can now decide noise levels of products and that environmental protection should be limited to control of environmental conditions over which individuals have no control.
-129 Dorothy (Illegible)	1. Expressed opposition to noise labeling.
-130 Theresa Wright	1. Expressed support for noise labeling.
-131 Mary Neuman	1. Suggested that motorcycle noise be abated.
-132 M. L. Brubaker	1. Requested information.
-133 Arthur Simpson	1. Expressed concern over motorcycle noise.
-134 Harry Rocco	1. Expressed belief that nothing can be done about the noise problem because it is a local problem and local government is corrupt.
-135 F. Schoelich	1. Inquired if the proposed requirements will apply to instruments used by rock bands.

Docket Number, Name, Affiliation	Comments
77-8-136 Mrs. J. O'Brien	1. Expressed approval of noise labeling.
	2. Suggested greater control of noise from hi-fi sets.
-137 Kathleen Canzaro	1. Expressed approval of noise labeling.
	2. Expressed concern over neighborhood noise, such as lawnmowers and motorcycles.
-138 Marc Prass	1. Suggested that air conditioners be labeled.
-139 John Gardner, M.D.	1. Suggested labeling on refrigerators, air conditioners, central air conditioning units, and forced air heating units.
	2. Suggested that ratings be in decibels.
	3. Suggested that label state whether product meets EPA's noise standards.
-140 Mrs. George (Illegible)	1. Expressed support for noise control and labeling.
-141 Burt Collins Lt. Col. USAF (Ret.)	1. Requested information on a wide variety of noise matters.
-142 Ray Chapman	1. Expressed opposition to noise labeling program because of cost to consumers, and his disbelief that it would be of aid to consumers.

Docket Number, Name Affiliation	Comments
77-8-143 J. M. Freiburger	1. Expressed support for noise labeling. 2. Expressed concern over noise from room air conditioners. 3. Suggested labeling of the normal noise range of operation and of the maximum decibel level.
-144 Anne Balas	1. Expressed concern about noise from airplanes, air conditioners (Chrysler Airtemp and Emerson Quiet Kool), lawnmowers, motorcycles and background music. 2. Requested Agency take some action to abate noise.
-145 Robert D. Barnes	1. Suggested that labels carry a warning "Caution: Hearing protectors should be worn when using this product," if the dB(A) level exceeds 90. 2. Commented that the noise labeling program is a good idea.
-146 R. L. Hastueau	1. Requested that existing noise laws be enforced.
-147 Allen H. Shiwer, P.E. Shiwer Associates Acoustical Engineers	1. Commended the Agency for proposing noise labeling program. 2. Suggested that the labels say whether higher numbers are quiet or loud. 3. Suggested that the labeling program be implemented with caution. 4. Suggested labeling of wallboard. 5. Noted the interdependence of acoustical systems, e.g., ceiling tile or mufflers.

Docket Number, Name, Affiliation	Comments
77-8-148 Lee Nolte	1. Requested information. 2. Expressed concern over noise from her neighbors' air conditioners.
-149 Rodger Ringham, International Harvester	1. Requested information.
-150	Transferred to Hearing Protector Docket: 77-5-37
-151 G. Baille Deputy Director of Environmental Health, Cotswood Dist. Council Glouster, England	1. Requested information as to whether outboard motors are labeled.
-152 Mrs. Hugh McKenna	Illegible.
-153 H. W. White, President Overlay Mfg. Co.	1. Suggested the Agency label acoustical doors for sound transmission loss and include the words "Noise Reduction Rating" on the label. 2. Expressed support for the program.
-154 Unsigned	1. Opposed program as an insult to intelligence.
-155 Hazel Spitzi	1. Requested Agency abate lawnmower noise. 2. Expressed support for noise labeling.

Docket Number, Name, Affiliation	Comments
77-8-156 Louise Green	1. Expressed support for noise abatement including the Concorde. 2. Expressed concern over noise from motor bikes, lawnmowers, chain saws, and mufflerless cars.
-157 Dorothy Brohe	1. Requested noise standards be set on appliances, particularly vacuum cleaners and room air conditioners.
-158 Henry Hayes	1. Expressed support of noise control efforts.
-159 Mary Deysher	1. Expressed complete support of noise labeling, in the belief that it would induce greater competition in developing quieter products. 2. Suggested warning labels be placed on products whose repeated use could damage a person's hearing such as power tools, lawn equipment, chain saws, outboard motors, motorcycles, and guns. 3. Requested information about public hearings.
-160 Thelma Smith	1. Expressed concern over noise from television commercials.
-161	Omission due to misnumbering.
-162 Joanne Gerety	1. Expressed concern about fire sirens (stationary emergency signalling devices) in residential areas. 2. Wanted information on this problem.

Docket Number, Name Affiliation	Comments
77-8-163 Mrs. Albert Haber	1. Expressed support for noise abatement efforts.
-164 Mrs. Anne Plueks	1. Expressed concern over noise from children's tricycles that have plastic wheels (apparently "big wheels" type).
-165 Mrs. D. Fisher	1. Expressed support for noise abatement.
	2. Expressed concern over noise from motorcycles.
-166 E. J. Kozminski Noise Analyst Rapistan, Inc.	1. Suggested use of one parameter for noise emitting equipment and one for noise reducing equipment, rather than choosing parameters on product-by-product basis.
	2. Sound power level, or sound pressure level at a specified position, or loudness in sones at a specified position could serve as a measure for noise emitters, while transmission loss or noise reduction coefficient could be used as a measure of noise reduction effectiveness.
	3. Criticized label's lack of reference to rating parameter used.
	4. Suggested that label include average value of all products in the class being labeled, in addition to the range. Otherwise, range information is misleading.
	5. Suggested that inspection without 24-hour notice should only be authorized by the Assistant Administrator for enforcement "if there is evidence that improper manufacturing and testing procedures are being employed by a company."

Docket Number, Name, Affiliation	Comments
77-8-167 R. J. Roney	1. Expressed opposition to noise control efforts as a waste of tax money.
-168 Mrs. W. Marshall	1. Expressed concern over motorcycle noise.
-169 Mrs. Roger Balgard	1. Expressed disapproval of noise labeling because there already is too much government interference in her life.
-170 Lucille Williams	1. Requested that lawnmower and blender noise be abated.
-171 Mrs. Herman LaDay	1. Requested regulation of noisy appliances and lawnmowers.
-172 Michael Percy Senior Urban Planner City of Mountain View, CA *(Insert also into Docket 77-5)*	1. Suggested that dBA rating be used on labels, because the consumer will be confused by a separate number system which would require referral to additional charts and information for interpretation.
-173 Gina Powell	1. Requested control of noisy appliances.
-174 Paesllis Koszeurski	1. Expressed disapproval of noise labeling because of its burden on industry and because the government is reaching into every aspect of daily life.
-175 Kathrine Rudolph	1. Expressed concern about noise from a local mining industry and the local zoning board's unwillingness to help her with it. Requested that the Agency lend her a noise meter so she can measure the sound level she is exposed to and show the zoning board.

Docket Number, Name, Affiliation	Comments
77-8-176 Willard Stingler	1. Suggested that noise labeling priority be given to constant noise sources in the home (i.e., central air blowers, refrigerators) instead of intermittent sources (i.e., vacuum cleaners).
-177 Ellen Taylor	1. Expressed disapproval of noise labeling because the government is taking responsibility for aspects of life that individuals should take responsibility for.
-178 June Lautt	1. Supported noise labeling of household appliances.
-179 J. A. Rombough	1. Expressed opposition to noise labeling because it is unnecessary government control.
-180 Warren Gast, President Gast Mfg. Co.	1. Letter on compressors. Referred to proper docket.
-181 Virginia Stilo	1. Urged approval of noise labeling regulations.
-182 Mrs. M. B. Commons	1. Expressed support for anything that would reduce noise, particularly that produced by motorcycles, cars, model airplanes and vacuum cleaners.
-183 Unreadable	1. Requested that the Agency do whatever it can to control noise in the home.
-184 Mrs. J. Cripe	1. Expressed support of noise labeling.

Docket Number, Name, Affiliation	Comments
77-8-185 B. E. Patterson	1. Expressed support of noise labeling.
-186 Stella Olekra	1. Expressed concern over noise from lawnmowers, refrigerators, noisy cars, air conditioners and wind-up clocks.
-187 Unsigned	1. Requested the Agency abate noise from motorcycles and trucks rather than lawnmowers and appliances.
	2. Expressed opposition to appliance labeling
-188 Jeanne Allen	1. Expressed support for noise labeling and noise pollution control in general.
-189 Mildred Knobloch	1. Expressed support of noise labeling program.
	2. Expressed particular concern over lawnmower noise (Lawnboy).
	3. Mentioned a noisy floor fan, (incorrectly advertised as quiet) and stove fan.
	4. Also concerned with TV commercial loudness.
-190 Mrs. Frank Nultner	1. Expressed concern over noise from refrigerators and U. S. motorcycles.
-191 Draza Kline	1. Expressed support of noise labeling.
	2. Expressed concern over noise from motorcycles and foreign cars.

Docket Number, Name, Affiliation	Comments
77-8-192 Nel Jones	1. Expressed support for noise labeling.
-193 Edgar Lion Planning Director Lafayette, CA	1. Expressed support for noise labeling program. 2. Suggested the labels indicate whether a high number indicates a greater or lower noise level to facilitate public understanding.
-194 Mrs. Walter Kruger	1. Suggested that motorcycle noise receive attention before household noise abatement.
-195 Evelyn Kaye	1. Requested abatement of loud television commercials
-196 R. S. Morgan	1. Informed us that motorbike noise is the only noise that he finds irritating.
-197 A. Gerald Reiss Director of Corporate Administration Fasco Industries	1. Based on reading of Section 8, proposed that only products that exceed a certain threshold noise level be required to contain a label which has no rating but that warns the user of potential adverse effects. 2. Criticized proliferation of labels. 3. Opposed use of EPA logo on label. 4. Suggested that simulation of "use environment" be a primary objective in setting standards. For exampl noise from air conditioners is not extremely annoying if everyone has windows closed. 5. Suggested that the regulation state what testing costs, direct and indirect, will be reimbursed by the Agency. 6. Requested a longer notice period for admittance to manufacturer's premises.

Docket Number, Name, Affiliation	Comments
77-8-198 John D. Kramer Secretary of the Illinois Department of Transportation	1. Suggested that the label contain a visual scale showing the range in noise ratings and indicating the "quiet" and "noisy" poles of the spectrum.
-199 Virginia Smith	1. Expressed concern with a number of household appliance noise levels, citing lawnmowers, refrigerator, air conditioner, dishwasher, sweeper, electric can opener, blender, hair dryer, TV and outside motors.
-200 Sarah Leach	1. Expressed support of noise labeling. 2. Requested action on TV commercial noise. 3. Requested information
-201 David Rankin	1. Suggested that the labels contain accurate and understandable information.
-202 Unsigned	1. Expressed concern over airplane and RR noise, and lack of concern about bus and truck noise.
-203 Margaret Lockner	1. Requested information.
-204 George Hunt (Replaced by 77-8-329)	1. Requested that the Agency take a stronger stand against industry and act as the people's advocate, publicizing the issue.
-205 Richard Bolin	1. Requested the Agency regulate the Carbide Cannon, a noise gun that scares away birds. 2. Suggested use of color scheme in labeling and a 1-10 scale.

Docket Number, Name, Affiliation	Comments
77-8-206 Harry Harter Department of Fine Arts Maryville College	1. Expressed approval of noise labeling but requested that the Agency abate noise from outside the home as well.
-207 Mr. and Mrs. Paul Rorda	1. Expressed support of noise labeling. 2. Informed us that their city council will not consider the model noise ordinance because of industry pressure and wants a mandatory nationwide noise law.
-208 Helen Pratt	1. Expressed concern over noise from blenders and vacuum cleaners.
-209 Florence Kumichi	1. Requested that the Agency abate lawnmower noise.
-210 John Brubaker	1. Suggested that motorcycles be considered for the first product labeled. 2. Proposed that any rules include penalties for modification of noise control devices.
-211 Irving Rank, M.D. Rosanne Frank, RN	1. Expressed approval of noise labeling, particularly refrigerators, vacuum cleaners, water softening devices and exhaust fans, because they create chronic tension in the individual who is confined to home. 2. Requested that the noise level of music in restaurants and other public places, where the general public is a captive audience, be restricted. 3. Suggested educational efforts to minimize the risk involved in exposure to "raucous rock music."

Docket Number, Name, Affiliation	Comments
77-8-212 Phillistt Rosenthal	1. Requested abatement of noise from lawnmowers and grass blowers.
-213 Glover Weiss	1. Requested control of noisy auto mufflers.
-214 Robert Bogan	1. Suggested that this inflationary project be dropped unless the EPA is able to demonstrate some clear economic benefit in excess of the potential costs.
-215 D. McAndrews	1. Expressed support for noise abatement, particularly of electric lawnmowers and motorcycles.
-216 Mrs. Eugene Emerson	1. Suggested any action which could abate household noise.
-217 Mrs. William Person	1. Expressed opposition to noise regulation because of burden on manufacturers and because she believes that consumers should exercise discrimination in purchasing.
-218 Mrs. Arthur Smith	1. Expressed support for noise labeling. 2. Expressed concern about truck noise.
-219 Sylvia White	1. Suggested labeling of appliances. 2. Requested information.
-220 Michael Saija	1. Expressed concern over a local swimming pool noise enforcement problem.

Docket Number, Name, Affiliation	Comments
77-8-221 S. Pelletier	1. Expressed support for noise abatement especially on appliances.
-222 Joanne Plock	1. Requested any action to abate appliance noise.
-223 R. Lansky	1. Expressed support for noise labeling.
-224 Dawn Weiss	1. Requested information.
-225 Les Bradley	1. Expressed support for noise labeling, especially of: dishwashers, washing machines, dryers, blenders, hair dryers, vacuum cleaners, radio and TV receivers, electric power drills, lawnmowers, and typewriters. 2. Requested some other noise abatement effort to control garbage trucks, tree limb and leaf shredders, jack hammers and air conditioners.
-226 Rachel Riley	1. Expressed concern over noise from a nearby factory.
-227 Harold Taylor	1. Suggested that all products above 45 dBA list their noise level.
-228 Bob Londergan	1. Expressed support for noise labeling.

Docket Number, Name, Affiliation	Comments
77-8-229 David Sullivan	1. Expressed support for noise labeling, particularly of blenders and lawnmowers.
-230 W. Cox	1. Expressed support for noise labeling, especially of lawnmowers.
-231 John Moore	1. Expressed concern over motorcycle noise.
-232 Mrs. D. E. Coward	1. Expressed concern over noise from her garbage disposal, dishwasher and kitchen fan.
-233 Mr. and Mrs. Theodore Adams	1. Requested noise from autos and motorcycles be abated.
-234 Prof. Richard Moore Kansas State University Department of Family Economics	1. Stated that noise standards are past due and that noise is one environmental area that has been neglected.
-235 Wilhelmia Smith	1. Expressed support for noise labeling, especially of "continuous noise" products such as fans, air conditioners and refrigerators.
-236 E. Camen	1. Requested that more be done to eliminate noise from vacuum cleaners, electric brooms, air conditioners, hair dryers, lawnmowers, refrigerator motors and blenders.
-237 E. P. Geauque	1. Expressed concern over household noise, including lawnmowers.

Docket Number, Name, Affiliation	Comments
77-8-238 Tom Meshan	1. Stated that noise labeling is a positive action because consumers need to make an informed decision.
	2. Suggested standards be set on household products in addition to labeling.
	3. Suggested labels that state a health warning.
	4. Mentioned products which subject consumer to "harmful levels" of noise: Vacuum cleaners, air conditioners, shop tools, blenders, hair dryers, washing machines, lawnmowers, and other household appliances.
-239 Kathleen Johnson	1. Expressed support for noise labeling, particularly of vacuums, air conditioners, and lawnmowers.
-240 Thelma Coren	1. Expressed support for noise control.
-241 John D. Hopkins	1. Expressed support for noise labeling.
	2. Expressed disapproval of Federal action to limit motorcycle noise because he believes that motor vehicle muffler laws can be improved on the state level.
-242 Mrs. D. Klompus	1. Expressed concern over noise from pipes and heaters in her apartment.
-243 Laurance Conti	1. Expressed concern over bus noise and wanted information on controlling it.
-244 Mr. and Mrs. Mike Main	1. Expressed support for noise labeling.

Docket Number, Name, Affiliation	Comments
77-8-245 Joseph Famulary	1. Expressed concern over noise from motorcycles and hot rods.
-246 Lois Segal	1. Expressed support for noise labeling with particular reference to vacuum cleaners.
-247 Michael Ramage	1. Suggested that any item powered by an electric motor have a noise label indicating the operating decibel level.
	2. Suggested that radio and TV have volume limits.
	3. Expressed support for the program.
-248 Mrs G. Miller	1. Expressed support for labeling of air conditioners, vacuum cleaners, refrigerators and lawnmowers.
	2. Suggested that Agency control noise level of television.
-249 H. Shillon	1. Expressed support for noise labeling.
-250 Unreadable	1. Expressed concern over noise of huge garbage vehicles, grocery delivery trucks, lawnmowers, vacuum cleaners, airplanes, and power tools.
-251 Claire Pichette	1. Informed us of a local "rock band" noise problem growing out of zoning.

Docket Number, Name, Affiliation	Comments
77-8-252 Gabor Usbau Mechanical Engineer	1. Expressed disapproval of noise labeling because: a. It is an attempt at people control. b. It would add another level of bureaucracy. c. It would increase prices, red tape and aggravatic d. Take away business freedom. e. It would waste tax dollars.
-253 Helen Von Ehrenkrook	1. Expressed disapproval for noise labeling because consumer protection costs consumers money.
-254 Ms. Kuniko Sato Environment Agency Tokyo, Japan	1. Requested information.
-255 Mrs. Paula Schreiner	1. Expressed support for noise labeling, including health hazard warnings.
-256 Unreadable	1. Expressed concern over noise from a host of sources, including vacuum cleaners, dishwashers, motorcycles and TV commercials.
-257 Chuck Howell	1. Expressed support for noise labeling. 2. Suggested products for labeling, including all "electrical equipment." 3. Requested information.
-258 Mr. and Mrs. Harry Oldinburg	1. Requested information.
-259 Priscilla and Eugene Challed	1. Expressed concern over motorcycle noise.

Docket Number, Name, Affiliation	Comments
77-8-260 Mrs. John Simoni	1. Expressed support for the labeling program.
-261 Zane Saunders, M.A. Director, Speech Pathology and Audiology Newington Children's Hospital	1. Requested copies of proposed rules and any other relevant information.
-262 Francois Louis Manager, Safety and Environmental Regulations, Renault, USA	1. Commented on automobile noise standards. 2. Stated that interior passenger car noise is a comfort consideration rather than a health matter, and the level of comfort is hard to measure in an objective fashion.
-263 Dorothy Shannon, Ph.D. Chief, Speech and Hearing Sinai Hospital of Baltimore	1. Expressed support for the program. 2. Requested further information beyond the summary of the notice of proposed rule making.
-264 F. W. Hetman President DeVal, Inc.	1. DeVal, a manufacturer of high performance aluminum windows and doors, expressed the opinion that all window systems should have sound transmission ratings. 2. Enclosed other letters and articles in support of this view.
-265 Jane A. Baran, Director Audiology/Aural Rehabilitation Indianapolis Speech and Hearing Center *(Insert also into Docket 77-5)*	1. Expressed support for the labeling program, as outlined in both the general labeling provisions and labeling standards for hearing protectors.
-266 The Rev. Henry M. Biggin	1. Requested the information on local community noise standards as described on the today show.

Docket Number, Name, Affiliation	Comments
77-8-267 Mrs. Lester Wiggins, Chairman Oklahoma Health Committee	1. Requested copies of proposed rules.
-268 Roy W. Muth Director, Technical Services International Snowmobile Industry Association	1. Requested the opportunity to testify at the Washington, D.C. hearing.
-269 Beth A Brown Clearinghouse Manager Aspen Systems Corporation	1. Requested information on the Washington, D. C. hearing and related publications.
-270 Mr. and Mrs. Larry Pinkston	1. Expressed full support for the program.
-271 Maria Henesah	1. Expressed support for the program. 2. Suggested labeling of electric fans, air conditioners, and refrigerators.
-272 Raymond F. Anderson	1. Expressed the opinion that noise labeling is a "lost cause." 2. Suggested a local noise abatement publicity effort through bumper stickers and mailing labels.
-212 *(Misnumbered)* Michael E. Paul, Sr.	1. Cited the worthiness of investigating noise labeling. 2. Suggested warning labels as appear on cigarette packages.

Docket Number, Name, Affiliation	Comments
77-8-(2)73 *(Misnumbered)* Ali Ragle	1. Expressed full support for the program, especially with respect to shop tools and garden equipment.
-(2)74 *(Misnumbered)* David and Eileen Garland	1. Expressed concern over lawnmower noise.
-275 Eloise Crossman	1. Expressed interest in home noise abatement and support for labeling program.
	2. Suggested noise labels affixed to packages or preferably directly on appliances.
-276 Judith Schlager	1. Expressed support for noise labeling, especially of dishwashers and lawnmowers.
-277 Mahlon E. Sipe	1. Suggested that noise control efforts be directed at motorcycles rather than household appliances.
-278 M. Grossman U. S. Factory Representative Peugeot	1. Commented on automobile noise standards.
	2. Stated that interior passenger car noise is a comfort consideration rather than a health matter, and the level of comfort is hard to measure in an objective fashion.
-279 Mrs. Roy Higdon	1. Expressed support for noise abatement for all household equipment, lawn care equipment, air conditioners and transportation vehicles.
-280 Martha Mathews	1. Expressed support for noise abatement for all household equipment, lawn care equipment, air conditioners and transportation vehicles.

Docket Number, Name, Affiliation	Comments
77-8-281 Joe Swift Executive Director, Environmental Affairs Mercury Marine	1. Commented on EPA's noise labeling standards as applied to marine engines in pleasure boats. 2. Suggested use of dB(A) for measurement and stated this is a measure of sound level and not sound pressure level as EPA document stated. 3. Noted that SAE J34a and SAE JXXX must be used for measuring pleasure motorboat sound levels, with L_{eq} being the most logical descriptor. 4. Cited need for a testing facility for comparative measurement (reverberant rather than anechoic), or alternatively, the SAE "standard boat approach." 5. Wondered if a single rating number would be based on "passby" or "interior" noise, and doubted that pleasure boats constitute a noise health hazard, yielding passby noises in the 70-80 dB(A) range. 6. Expressed the opinion that the motor can be rated only in combination with the boat, posing measurement problems.
-282 Donna McCord Dickman, Ph.D. Metropolitan Washington COG	1. Mentioned her intention to testify at the Washington, D. C. hearing.
-283 Lt. Jim Anderson Traffic Division Rapid City Police Department	1. Requested a copy of the Ringelmann Chart in connection with development of local exhaust noise level ordinance.
-284 Richard M. Snyder	1. Expressed opposition to the program, preferring to rely on the free enterprise system.

Docket Number, Name, Affiliation	Comments
77-8-285 George M. Gorman	1. Expressed general support for abatement of environmental noise.
-286 Emma Niemann	1. Requested that priority be given to control of motorcycle noise.
-287 John P. Reardon Director of Government Affairs Air Conditioning and Refrigeration Institute	1. Requested opportunity to testify at the Washington, D. C. hearing.
-288 M. L. Downs	1. Stated that noise levels of motorcycles should be reduced.
-289 G. C. Simpson	1. Expressed concern over noise from bulldozers, trucks, motorcycles and buses.
-290 Sue Vogelsanger	1. Requested available reports on the subject of noise pollution.
-291 Jules A. Kaiser	1. Cited an attachment from the Philadelphia *Inquirer.*
-292 F. K. Foster	1. Expressed support for noise abatement for all household equipment, lawn care equipment, air conditioners and transportation vehicles.
-293 Leila Aiken	1. Expressed support for noise abatement for all household equipment, lawn care equipment, air conditioners and transportation vehicles.

Docket Number, Name, Affiliation	Comments
77-8-294 Winston L. (Illegible)	1. Suggested noise labeling of motorcycles, chain saws and trucks. 2. Suggested federal maximum noise levels.
-295 Esther Mary Lippard	1. Expressed concern over loud background music on TV.
-296 Toshio Kitamura Deputy Director of General Affairs Div. Machinery and Information Industries Bureau Ministry of International Trade and Industry Japanese Government	1. Requested further information.
-297 T. J. McCann	1. Suggested that radios, PA systems, televisions, and music amplifiers be included in the program.
-298 Vincent Argondezzi	1. Complained of two noisy bulk flour pumps located near his residence and requested a source of relief.
-299 G. M. Hoch	1. Expressed opposition to the program because of possible inflationary effects.
-300 Mrs. Arthur Klavans	1. Expressed support for the program, citing noisy air conditioners in particular.
-301 James P. O'Donnell	1. Expressed opposition to the program because of increased costs to consumers.

Docket Number, Name, Affiliation	Comments
77-8-302 Jerry Boyle President, Honda of Piqua (Ohio)	1. While generally approving of EPA activities, requested that more time be given before the setting of noise standards.
-303 James E. Wingert	1. Expressed concern over motorcycle noise.
-304 John R. Race	1. Because of industry and user lack of concern, suggested that snowmobile, chain saw, outboard boat and trail bike noise be abated rather than labeled.
-305 John J. Hughes State Lobster Hatcher and Research Station (Massachusetts)	1. Expressed approval of action under Section 8 of the Noise Control Act and suggested motorcycles be given priority. 2. Suggested a flyer describing dB(A)'s and their measurement for public education.
-306 Gerald E. Starkey, P.E. Noise Abatement Specialist County of Santa Clara	1. Announced intent to attend San Francisco hearing. 2. Requested further information as it becomes available.
-307 F. E. Powers, Jr.	1. Suggested the labeling of all motor vehicles with standards for sports cars and motorcycles. 2. Noted that skateboards and escalators need not be labeled.
-308 Leona and Karl Wilhelmsen	1. Suggested labeling of household equipment, lawnmowers and shop tools and abating the noise of motorcycles and snowmobiles.

Docket Number, Name, Affiliation	Comments
77-8-309 Emmett Joseph	1. Expressed support for the program.
	2. Suggested noise regulations be set for motorcycles, lawnmowers and power saws.
-310 L. K. Lepley	1. Requested information on the program and the opportunity to participate.
-311 Ronald Junck, President Prince Manufacturing Corporation	1. Questioned if the public were aware of the increased consumer cost that the program would cause.
-312 John G. New, Chairman Biology Department SUNY, Oneota	1. Expressed support of program for simple comparative noise labeling of power shop tools, powered garden equipment, vacuum cleaners, mixers, dishwashers, air conditioners, and electric shavers.
	2. Wished to see motorcycles, snowmobiles and off-trail vehicles covered also.
-313 Burt B. Fisher	1. Expressed opposition to the program because of excessive government interference in citizens' lives.
-314 L. F. Hendricks	1. Suggested that computer equipment be included in EPA noise abatement efforts.
-315 Stuart M. Low Flent's Products Company	1. Correspondent, a hearing protector manufacturer, requested the opportunity to testify on the general provisions at the Washington, D. C. hearing.
-316 Lang D. Woods Woods and Woods Law Offices	1. Requested information on the submission of written comments on behalf of clients.

Docket Number, Name, Affiliation	Comments
77-8-317 Leo Pazavis	1. Requested abatement of general street noise.
-318 A. C. Koller	1. Suggested abatement of motorcycle noise.
-319 Hope Nissenbaum	1. Expressed concern with appliance noise, such as a blow hairdryer and a blender.
-320 Mrs. Geraldine Graf	1. Expressed support for the program.
	2. Included two newspaper articles, one by the correspondent on the subject of environmental noise.
-321 Irma M. Bennet	1. Expressed support for the program.
-322 Marjoria Ackerman, RN and audiometrist	1. Expressed support for noise control and labeling of vacuum and rug cleaners, hair dryers, and electric mixers, and all tools and machinery.
	2. Suggested that the labels carry a health warning as well as the decibel level.
	3. Suggested that the label note that repairs would increase the stated decibel level of the product.
	4. Suggested that stereos be labeled with a green-yellow-red color scheme.

Docket Number, Name, Affiliation	Comments
77-8-323 E. S. Mott Mott Corporation	1. Expressed opposition to the program as a "consumer rip-off." 2. Suggested that bureaucrats be required to have 5 years of practical experience in private industry.
-324 R. Lowens	1. Expressed support for the labeling program and suggested the inclusion of attic fans, heat pumps, refrigerators, washers, dryers, vacuum tools, and powered lawn and garden equipment. 2. Suggested the EPA establish a recommended maximum noise level to be indicated on the label. 3. Suggested EPA enter the field of airplane noise levels because of FAA and CAB's inaction.
-325 Ruth Jabach	1. Expressed support for the program. 2. Expressed concern over motorcycle noise.
-326 S. J. Alson	1. Suggested that motorboats and outboard motors be considered.
-327 Gloria J. O'Reilly	1. Expressed concern with noise from: children's street toys, amplified "music," lawn care machines, home care machines, blenders, vacuums, mixers, can openers, refrigerators, floor polishers, electric shavers, hair blowers, air conditioners, fans, and motorcycles.
-328 Robert Z. Breakwell	1. Expressed opposition to the program because of increased costs to the consumer.

Docket Number, Name, Affiliation	Comments
77-8-329 George H. Hunt	1. Requested his earlier submission, 77-8-204, be replaced with this correspondence. 2. Requested information on opportunities in the field of noise pollution. 3. While favoring the labeling program, suggested use of direct language instead of codes or numbers. 4. Suggested a seal of approval for low-noise products. 5. Cited a number of major noise polluters.
-330 Betty Jacques	1. Requested abatement of motorcycle, air conditioner refrigerator, and general appliance noise.
-331 Mrs. Mary E. Neumann	1. Expressed support for the program and concern over motorcycle noise.
-332 Norman O. White	1. Requested labeling and abatement of motorcycle noise.
-333 Richard J. Peppin Virginia Regional Coordinator Coordination Committee for Environmental Acoustics Acoustical Society of America	1. Suggested use of existing rating "labels," e.g., STC, NRC, SRN, because of industry acceptance. 2. Suggested that labels incorporate the distance factor, especially for "outdoor" products. 3. Suggested that products with sound-controlling devices (e.g., TV's and radios) not be labeled. 4. Suggested use of the sound power level and the A-weighted sound pressure level for rating purposes. 5. Requested to be kept informed of developments in the program.

Docket Number, Name, Affiliation	Comments
77-8-334 Marcia Macdonald	1. Expressed wholehearted support for the program. 2. Requested stricter enforcement of motorcycle noise control.
-335 Robert S. Jackson M.D. Assistant Commissioner Department of Health Commonwealth of Virginia	1. Expressed support for the program.
-336 (Mrs.) Frances Oatley	1. Expressed concern over several sources of neighborhood noise including air conditioners, lawnmowers, sirens, tree-cutters, hi-fi's and garbage trucks.
-337 William J. Stephens General Counsel American Rental Association	1. Requested the opportunity to testify at the Washington, D. C. hearing.
-338 Katherine M. Reilly, M.D. Audiologist, Marin General Hospital	1. Requested current information on standards and requirements related to Dockets 77-5 and 8.
-339 Mrs. M. L. Branchaud	1. Requested complete information on No. 77-8.
-340 Anthony Kelly	1. Expressed concern over shooting range activities and suggested such noise be abated.

Docket Number, Name, Affiliation	Comments
77-8-341 Mr. and Mrs. William Woodhouse	1. Expressed support for noise control.
	2. Expressed concern over noise from a neighborhood tavern, motorcycles and snowmobiles.
-342 A. H. Krieg, President Widder Corporation	1. Commented that levels of 50-55 DB's for industrial products are unrealistic.
	2. Noted that noise reduction would have an adverse impact on efficiency and thus on energy consumption.
-343 Mrs. E. K. Swartz	1. Suggested that traffic noise be given priority over appliances.
-344 Mr. John G. Kovash	1. Expressed support for the program but preferred maximum levels.
	2. Noted the problem posed by involuntary third party listeners for the labeling project.
-345 Mrs. Henry Kaye	1. Expressed concern over loud TV and radio commercials.
-346 Florence Shafter	1. Expressed concern over noisy mufflers, foreign cars and motorcycles.
-347 Richard J. Peppin County Acoustical Engineer Montgomery County, Maryland	1. Expressed strong support for the program and suggested the labeling of air conditioners, power tools, lawnmowers, power boats, ceiling tiles, big wheel bikes, and minibike/off-road vehicles.

Docket Number, Name, Affiliation	Comments
77-8-347 (Continued)	2. Noted use of the NRC for ceiling tile but cited its lack of indication of transmission loss capability.
	3. Requested the results and summaries of the hearings when available.
-348 Roy Ruuska	1. Expressed serious concern with local motorcycle noise and requested a response.
-349 Mayda L. Lyons	1. Expressed doubts about the possibility of controlling a variety of environmental noise sources.
-350 Singapore Institute of Standards and Industrial Research *(Also 77-5-021)*	1. Requested a copy of the proposed regulations and to be kept informed of further developments.
-351 David Fishken, Ph.D. Department of Psychology Northeastern University	1. Requested all available information on Nos. 77-5 and 8.
-352 Joseph P. Fiori	1. Expressed concern over air conditioner and motorcycle noise.
-353 Mary Davey Schambach Technical Coordinator John L. Price and Associates Environmental Analysis and Consultation	1. Expressed support for the program.

Docket Number, Name, Affiliation	Comments
77-8-354 Marilyn B. Noyes Family Resource Management Cooperative Extension Service Utah State University	1. Expressed support for noise labeling if costs could be kept low, but expressed opposition to mandatory restrictions on noise levels.
-355 LeRoy J. Pahmiyer	1. Expressed opposition to the program because individuals can take more effective action through direct contact and the courts.
-356 Leonard Feuerstein	1. Expressed opposition to the program because of the ineffectiveness of existing regulations which are not enforced, increased cost, and effectiveness of competition.
-357 Mrs. Sylvia L. White	1. Expressed support for the program, citing blenders, air conditioners, cake mixers, and vacuum cleaners.
-358 Rudolf Donninger Ostereichisches Normungsinstitut	1. Requested further background information, particularly on the choice between the noise power level or the noise pressure level for labeling purposes.
	2. Suggested use of the noise power level of the International Standards Organization for ratings.
	3. Noted that Austria intends to issue similar regulations and thus wished to be kept informed.
-359 Joseph P. Shepherd, Jr.	1. Expressed support for the program and commented on general environmental noise.

Docket Number, Name, Affiliation	Comments
77-8-360 Kenneth Young	1. Expressed opposition to the program because of increased costs and excessive government meddling.
-361 Mr. W. J. Perney	1. Requested copies of the hearings.
-362 (Dr.) Bessie Chronaki	1. Suggested decibel labels on the volume controls of radios, TV's and stereos.
	2. Suggested control of sounds from "Musak" in public places because of its "escapist" qualities.
-363 A. Stephan Bozun, Jr.	1. Expressed support for the program to allow for comparative shopping on noise levels.
	2. Noted the noisiness of vacuum cleaners, dishwashers and lawnmowers.
	3. Suggested that the labels be kept simple and that the decibel levels be designated.
-364 James M. Farrell	1. Expressed opposition to the program because of the capability of consumers to make their own decisions.
	2. Suggested that EPA's efforts be confined to requests from local government.
-365 R. A. Mahr	1. Cited a Washington State Ecology Department survey showing citizen concern for control of motorcycle noise.
-366 David W. Clark	1. Expressed concern over motorcycle noise.

Docket Number, Name, Affiliation	Comments
77-8-367 Larry J. Hall, M.D. PSC	1. Noted that, with a scale A meter, a Kitchenaid dishwasher generated 80 dB at six feet and a Westinghouse heat pump generated 70 dB at three feet from an air duct. Levels deemed to be detrimental by the writer.
	2. Expressed concern with U. S. Navy ship noise and suggested that Federal agencies be required to lead the way in noise abatement.
-368 Marvin Bing	1. Suggested noise control and labeling of all items, such as refrigerators and trucks.
-369 W. E. Schwieder Ford Motor Company	1. Accepted invitation to testify at the Washington, D. C. hearing.
-370 Melvin D. Furman	1. Expressed opposition to the program because of lack of public understanding of dBA levels and because of increased costs to consumers.
-371 Mrs. J. Lamb	1. Expressed concern over barking dogs and loud music during the night.
-372 Joi Anne Garrett	1. Expressed general support for the labeling program.
-373 W. A. Hyland	1. Expressed opposition to the program because of: (a) increased costs and inferior products, (b) public satisfaction with current noise levels, (c) adverse effects on the economy, as in the recent "depression" caused by EPA's automobile emission standards, (d) lack of clarity of proposed noise level labels, (e) decrease of individual freedom.

Docket Number, Name, Affiliation	Comments
77-8-374 Charles V. Anderson, Ph.D. Associate Professor of Audiology University of Iowa	1. Requested the opportunity to testify on behalf of the American Speech and Hearing Association and the Iowa Council on Speech, Hearing and Language Disorders at the Cedar Rapids hearing.
-375 Kenneth Truce	1. Requested information on the Cedar Rapids hearing.
-376 Constance (Mrs. George) Bell	1. Expressed disagreement with an editorial in Morristown, N.J. *Daily Record* which opposed the program as excessive governmental regulation (included copy of the editorial). 2. Expressed concern with general environmental noise makers such as lawnmowers, chain saws and vacuum cleaners (Kenmore). 3. Noted use of noise from fans and air conditioners to drown out more irritable noise and requested that these products remain loud.
-377 Patrick C. Welsh Principal Environmental Specialist Municipality of Anchorage, Alaska	1. Expressed support for the program, citing the noise of blenders, hairdryers and trash compactors. 2. Suggested that glass or steel packed mufflers be banned from public use unless they emit less than 76 dB(A) at 25 feet after 500 hours' use. 3. Requested placement on the mailing list for further information on the program.
-378 James W. Klimes Product Safety Department Deere and Company	1. Requested the opportunity to testify at the Cedar Rapids hearing.

Docket Number, Name, Affiliation	Comments
77-8-379 Dick Almy	1. Expressed opposition to the program because of lack of concern with noise if the product performs satisfactorily.
-380 Roland Westerdal President, Bilsom International, Inc. *(Insert also into 77-5)*	1. Bilsom International, a manufacturer of personal hearing protective devices, noted that the proposed labels are aimed too heavily at the end user rather than the purchaser of the product, distorting the intended audience. 2. Suggested greater flexibility in the means of giving notice beyond affixing a standardized label, and suggested substitution of the word "notice" for "label" in paragraphs 211.1.4, 5, 6, 7, and 8. 3. Suggested that reference to labeling conditions be deleted from paragraph 211.1.10-4(a) to preserve the value of the testing exemptions. 4. Asserted that the provisions of paragraph 211.1.9(b) overreached the agencies authority for extra-territorial jurisdiction and suggested that EPA need not enter foreign facilities to fulfill the purpose of the regulations. 5. Expressed the opinion that the inspection and monitoring provisions for access to facilities were unreasonable in light of the proprietary nature of the firm's products, and suggested accordingly that subsection b(1)(3) of 211.1.9 be deleted. In addition, subsection c should be amended to allow inspection and monitoring noise testing where conducted in the U. S. 6. Suggested changes in wording to assure that EPA bears the cost for any testing required by the administrator.

Docket Number, Name, Affiliation	Comments
77-8-381 Chet Pitek	1. Expressed concern over highway noise near his residence and asked for remedial suggestions for abatement of this noise.
-382 John E. Cutshall	1. Expressed (a) the opinion that government should regulate private industry and (b) support for government effort to regulate noise.
-383 Mrs. Josephine (Illegible)	1. Expressed concern for the enforcement of muffler laws for motorcycles.
-384 Unreadable	1. Expressed concern over noise, especially that of airplanes and trucks, as a cause of social disorders.
	2. Expressed support for the program and for strict enforcement of EPA regulations in general.
-385 Jenny L. Armour	1. Expressed concern over hairdryer noise and wanted such products tested for noise levels.
	2. Requested information on the results of the hearings.
-386 J. C. Cornelius	1. Expressed concern over noise from motorcycles, small cars, and trucks, especially U. S. Postal Service trucks.
-387 Lois (Mrs. Robert S.) Green	1. Expressed support for the program.
	2. Expressed concern over enforcement of noise controls on motorcycles and hot rods, which should be at a higher priority than abating noise from construction equipment.

Docket Number, Name, Affiliation	Comments
77-8-388 Clay Gerken	1. Suggested the noise labeling of vacuum cleaners and dishwashers.
-389 Elen L. (Mrs. John) McCamish	1. Expressed support for noise abatement efforts. citing noisy refrigerators, chain saws and lawnmowers.
-390 Theodore Berland President, Citizens Against Noise	1. Requested the opportunity to testify at the Washington, D. C. hearing.
-391 (Name is Illegible) MacMurray Pacific Wholesale Builders' Specialties	1. Noted the San Francisco hearing and requested more information on the subject.
-392 Darrell E. Wolbers J. I. Case, Tenneco	1. Informed EPA of Case representative to testify at the Cedar Rapids hearing.
-393 High School Students	1. Expressed concern over the loud music at parties and wondered what could be done.
-394 H. J. Wise W. H. Brady Company	1. As a manufacturer of nameplate and labeling products, requested copies of proposed regulations for their review and comment.
-395 Dianne Spessard	1. Expressed support for the program, citing vacuum cleaners and blenders, in order to make intelligent choices.
-396 Darlene Davis	1. Expressed concern over noise from blenders, mixers, refrigerators, motorcycles and snowmobiles.

Docket Number, Name, Affiliation	Comments
77-8-397 Mrs. Lillian E. Burns	1. Expressed concern over noise from newer appliances (e.g., a refrigerator, a mower, and cars) relative to older, more noise-free appliances.
-398 Cherie Larson	1. Expressed support for the program, citing lawnmowers, vacuum cleaners, washers, motorcycles, and piped in music at shopping centers and restaurants.
-399 Charles E. Speiser Certified Hazard Control Manager	1. Expressed concern over chain saw, lawnmower and "weed eater" noise, which he has measured at 106 dB(A) and strongly suggested labeling of these products.
	2. Suggested instructions on the label or in sales information which advised user of above products to wear hearing protectors.
-400 Richard O. Thomalla International Acoustical Testing Laboratories, Inc.	1. Expressed support for the labeling program.
	2. Discussed his company's sound rating procedures and specific costs. Standard fee for conducting a sound power test in accordance with ANSI S1.21 is $300 but cost could be reduced to $200 or less if fewer frequency bands taken, while a single number sound power level test would cost around $150.
	3. Suggested that cost of testing and lab availability be major considerations when devising a rating scheme.
	4. While simplest rating would involve a sound pressure reading, availibility of testing labs with anechoic room is less than desirable. A more practical approach is a sound power measurement, because sound power data is corrected for whatever environment it is measured in.

Docket Number, Name, Affiliation	Comments
77-8-401 David M. Anderson Bethlehem Steel Corp.	1. Criticized lack of requirements for providing information on how "noise reduction ratings" can be used to determine the actual noise levels when the product is installed in a specific environment. 2. Asserted that a small additional amount of information could allow user to predict resulting noise level when installed. 3. Suggested inclusion of requirement that this information be included on the label or in supplementary material provided to purchaser.
-402 Pearl Michaelson	1. Expressed support for noise control program. 2. Listed noisy appliances: dishwasher, washing machine, clothes dryer, refrigerator, lawnmower, air conditioners, and garbage disposal.
-403 Louis H. Bieler	1. Complained about noise of a new air conditioner. 2. Noted that the manufacturer, when contacted, had no concern about the noise level. 3. Suggested that there had been false advertising.
-404 Fred C. Worthington	1. Expressed opposition to the noise labeling program, suggesting that it is a waste of taxpayers' money.
-405 Rhona Hellman Dept. of Speech Pathology and Audiology Boston University and Bertram Seharf Auditory Perception Laboratory Northeastern University	1. Suggested rating based on a computational procedure instead of a weighted physical measure such as a dBA, because the former includes subjective psychoacoustic methodology, provides a linear measure, allows for incorporation of refinements relating to tonal components and sound intermittency, and involves costs that are lower than those required for standardized sound-level measurements.

Docket Number, Name, Affiliation	Comments
77-8-405 (Continued)	2. Mentioned calculation systems: (1) American National Standard S3.4 Procedure for the Computation of Loudness of Noise; (2) Part B of R-532 of the International Standards Organization (a Procedure for Calculating Loudness Level); and (3) 150 R507, Procedures for Describing Aircraft Noise Around an Airport. 3. Discussed technical and cost-related advantages and disadvantages of dB(A). 4. Mentioned that although the public is aware of decibels, sound ratings could not easily be related to them, and any rating system will be new to the public anyway. Also, increasing public understanding of dB(A) would not be of great benefit, since consumers are not involved in monitoring or measuring noise levels. 5. Argued in favor of using sones as a means of expressing noise level on the label because: a. The scale is linear and absolute. b. The measure is internationally accepted. c. It would promote understanding of direct measures of the subjective effect of noise. 6. Supported numerical ratings *versus* categories. 7. Commented on problem of taking into account aging of noise-producing product, suggesting an average of measurements taken after a period of simulated use. 8. Mentioned problems associated with temporal factors, including overall duration, intermittency, and tonal components; and recommended a delay in labeling products whose noise qualities reflect these problems. 9. Advocated the creation of a federally-sponsored but independent laboratory which would test products, advise manufacturers, and perform relevant research.

Docket Number, Name, Affiliation	Comments
77-8-406 Charles W. Hyer The Marley Corporation	1. Requested information on the hearings, indicating that he wished to attend and offer comments.
-407 Mrs. Gregory Brill	1. Expressed concern over television noise.
-408 Lewis K. Hosfeld	1. Expressed concern over noise from trail cycles.
-409 Claude Shirai Japan Machinery Federation	1. Requested information on proposed noise labeling standards.
-410 Frances J. Babon	1. Expressed support for noise labeling program. 2. Suggested that her family's health is adversely affected by noise. 3. Suggested products to be labeled: Hair dryers, vacuum cleaners, food blenders, shop tools, lawn and garden equipment, chain saws, remote controlled airplanes and boats.
-411 Archie L. Spratt Instamatic Corporation	1. Expressed opposition to noise labeling regulatory program, especially as applied to roof-top air conditioners on RV's due to: a. high cost of testing procedures, b. lack of public complaints about noise of their products, c. the fact that noise reducing features will reduce efficiency.
-412 H. F. Renneberg	1. Expressed opposition to the program, stating that the market mechanism is sufficient to solve the noise problem, if it exists.

Docket Number, Name, Affiliation	Comments
77-8-413 Melvin W. Talbott	1. Expressed support for noise labeling program, mentioning cars, trucks and vans as prime candidates for labeling.
	2. Expressed concern about loud traffic noise.
-414 Larry Potter Kentucky Department of Labor Occupational Safety and Health *(Insert in Docket 77-5)*	1. Suggested that on the labels of noise reduction products, it should be stated that the attenuation values are affected by improper fitting or wearing, and that these values are determined under ideal conditions.
-415 Mrs. F. J. Hammond	1. Expressed concern about the noise of kitchen blender.
-416 Stan Dudek	1. Expressed concern about traffic noise.
-417 Thomas A. Dobbelane	1. Suggested that labeling will not solve the noise problem and that regulation is necessary because people like noisy products.
	2. Complained about noise of chain saws, lawnmowers, trail bikes, motorcycles, cars, TV commercials, and motorboats.
-418 Dr. and Mrs. Ronald L. Hall	1. Expressed support for labeling program.
	2. Suggested these products for labeling: air conditioners (window units), hair dryers, fans, dishwashers, and vacuum cleaners.
-419 Alberta J. McAlarney	1. Expressed concern about the noise level of Hoover vacuum cleaner and motorcycles.

Docket Number, Name, Affiliation	Comments
77-8-420 Le Ann Price	1. Expressed support for labeling program. 2. Listed noisy appliances: stove exhaust fan, hand mixer, lawnmowers, hair dryers, vacuum cleaners and refrigerators.
-421 Edward J. Reilly	1. Expressed support for the noise regulation program. 2. Complained about the noise of public transportation vehicles and cars.
-422 William C. Legg	1. Expressed support for noise regulation program. 2. Noted that vehicles, particularly trucks, are excessively noisy. 3. Suggested that factories should not be located in residential areas.
-423 Frances Szablewski	1. Expressed support for noise labeling program. 2. Listed noisy appliances: dishwasher, washing machine, lawnmower, coffee grinder, vacuum cleaner.
-424 Francois Louis Renault, USA *(Insert in Docket 77-9)*	1. In connection with possible noise labeling of vehicles and mufflers, suggested methodology for measuring certain noises associated with cars, specifically exhaust noise, engine noise, exterior and interior noise, and difficulties associated with each technique.

Docket Number, Name, Affiliation	Comments
77-8-425 P. D. Southgate	1. Expressed support for noise labeling program. 2. Suggested that in the case of products when a third party is affected, labeling is not sufficient and regulation is needed. 3. Suggested that state regulation is not sufficient when a product is nationally marketed, but Federal regulation is necessary.
-426 L. Lamar Black	1. Expressed opposition to the labeling of household appliances. 2. Criticized EPA actions because of increased prices for consumers. 3. Asserted that manufacturers are capable of regulating themselves through competition
-427 Rachel Corbin Riley	1. Complained about the noise of a factory near her house.
-428 Mr. and Mrs. John R. Sheeley	1. Expressed support for noise abatement program. 2. Listed noisy appliances: vacuum cleaners, chain saws, power mowers, dishwashers.
-429 Robert J. Entwisle Automatic Switch Company	1. Requested information concerning labeling program and specific products that will require labels.
-430 M. F. Crabtree	1. Requested assistance with a specific noisy appliance, an air burning furnace in their mobile home.

Docket Number, Name, Affiliation	Comments
77-8-431 Mrs. Marie S. Griffin	1. Expressed support for labeling program.
	2. Suggested that merchants be required to demonstrate their products in the store so that consumers can hear the noise level.
	3. Expressed concern about the noise level of dishwashers, in addition to lawnmowers and television commercials.
-432 Mrs. James H. Watson	1. Listed noisy products: vacuum cleaner, hand and large mixer, electric razor, lawnmower, hand skill saw, gas driven saw, hair dryer.
-433 Mrs. Dorothy Chapin	1. Expressed support for the labeling program.
	2. Suggested that the noise level of electrical pumps used for irrigation be regulated.
-434 Warren E. Gast Gast Manufacturing Corp.	1. Expressed opposition to the labeling program, stating that it is unnecessary and will not influence purchasers' decisions.
	2. Expressed the opinion that as consumers begin to look for quieter products, manufacturers will make quieter products.
-435 Mrs. Buddy E. Arbuckle	1. Expressed concern about the noise levels of dishwasher and hood fan.
-436 Mrs. L. J. McNeill, Jr.	1. Listed noisy products: vacuum cleaner, hand-held hair dryer and vehicle motors.

Docket Number, Name, Affiliation	Comments
77-8-437 Family Finance Class Fordland High School, Missouri	1. Listed noisy appliances: garden tillers, garbage disposals, lawnmowers, blenders, hair dryers, electric mixers, washing machines, dryers, vacuum cleaners, refrigerators, sewing machines, air conditioners, fans, telephones, dishwashers. 2. Suggested a rating scale from 1 to 10.
-438 Andrew Aitken	1. Suggested that trucks do not obey current noise regulations, and that noise checks be integrated with speed checks conducted by the state police 2. Suggested that trail bikes be made so that mufflers cannot be removed since enforcement of regulations in that case is virtually impossible.
-439 Theonie Lilmore	1. Expressed support for the labeling program. 2. Suggested that retailers who sell noisy appliances also sell hearing protectors.
-440 S. Ditz	1. Expressed concern about the noise of a vacuum cleaner.
-441 Helen M. Schmidt	1. Listed noisy products: vacuum cleaners, air conditioners, kitchen vent fans, mixers, televisions, lawnmowers, power tools, motorcycles and trucks. 2. Suggested that by requiring labeling, manufacturers will be forced to think about noise.
-442 Eunice B. Childs	1. Suggested that motorcycle noise should be strictly regulated, with heavy fines for violations of noise ordinances.

Docket Number, Name, Affiliation	Comments
77-8-443 Louise Wilson	1. Listed noisy products: vacuum cleaner, refrigerator, and central heating unit.
-444 K. O. Tooker, Pres. Plasticast Laboratories, Inc. *(Insert in Docket 77-5)*	1. Indicated that sound attenuation of custom molded ear protectors will vary from one individual to another depending on stiffness of ear tissue and other factors. Tests have indicated attenuation varying from 18 to 22 decibels in the range of 300 to 1000 Hertz and from 28 to 35 decibels in the range of 3000 Hertz and beyond.
-445 Carol Seamon	1. Expressed support for a labeling program.
	2. Suggested that mandatory noise limits be set for vacuum cleaners, lawnmowers and shop tools.
	3. Suggested that a numerical rating system be used, rather than symbols.
-446 Unsigned	1. Listed noisy products: vacuum cleaners, hair dryers, electric mixers, lawn mowers, chain saws. motor cycles.
-447 The Veresh's	1. Listed noisy appliances: hair dryer and vacuum cleaner.
-448 Sam and Laura Robbins	1. Listed noisy products: Lawnmowers, motorcycles, air conditioners, pool filter pumps, indoor and outdoor vacuum cleaners, autos, trucks, hair dryers.
	2. Requested information on the noise level of different pool filters and vacuum cleaners so that they can comparison shop.

Docket Number, Name, Affiliation	Comments
77-8-449 Max O. Bilfft	1. Listed appliances needing labels: vacuum cleaners, refrigerators, air conditioners, hair dryers, heater blowers, shop tools, dishwashers, exhaust fans, washing machines and dryers, power boats, toys.
-450 J. C. and Dorothy Kenyon	1. Expressed concern about the noise level of boats and trucks.
-451 Unsigned	1. Rank-ordered noisy products: lawn and garden equipment, shop tools, air conditioners, vacuum cleaners and floor waxers, dishwashers and washing machines, blenders, hair dryers, and electric fans. 2. Suggested use of symobls for noise rating descriptor.
-452 Eleanor Culberson	1. Expressed support for labeling program. 2. Mentioned need for quiet dishwashers, vacuum cleaners, and washing machines.
-453 Allison Titus	1. Complained about danger of vacuum cleaner's retractable cord.
-454 Unsigned	1. Opposed labeling program viewing it as a waste of money.
-455 Mrs. A. William Butler	1. Complained of noise emitted by a vacuum cleaner.

Docket Number, Name, Affiliation	Comments
77-8-456 Mrs. Bill Joe Austin	1. Complained about neighbor's air conditioning and heat pump system.
	2. Suggested heat pump, because of stationary position and continuous use, be given priority for noise control.
	3. Emphasized that neighbor was not informed about noise level at time of purchase.
-457 Mrs. Ralph Moffet	1. Complained about noise of refrigerator
-458 Roger D. Smith	1. Requested placement on mailing list for product-specific regulations.
	2. Asked if regulations exist covering laboratories that provide compliance testing services.
-459 Yvonne Brunstad	1. Expressed support for labeling program.
-460 Elizabeth McCutchen	1. Complained about noise emitted by vacuum cleaner.
-461 Mrs. A. P. Lovato	1. Expressed support for noise abatement program.
	2. Suggested a warning be placed on labels and ads similar to Surgeon General's cigarette-smoking warning.
-462 John L. Warner	1. Believed labeling of motorcycles and exhaust systems will be ineffective but supports maximum noise levels and fines for altering the system.

Docket Number, Name, Affiliation	Comments
77-8-463 Mrs. R. J. Gelhar	1. Complained about noise of vacuum cleaners, hair dryers, and washing machines.
-464 Geraldine Greig	1. Expressed support for program.
	2. Referred to computers and business machines as a source of noise.
-465 Shirley W. Valin	1. Expressed support for labeling program.
	2. Sources of noise mentioned as annoying are vacuum cleaners, shop tools, power mowers and gardening equipment.
-466 Muriel Cowing	1. Expressed support for labeling program.
	2. Referred to vacuum cleaners as major noise source.
	3. Preferred symbols to numbers as noise rating descriptors.
-467 Ann Smith	1. Expressed support for labeling program.
	2. Stated that numerical rating would be better than a symbolic system.
	3. Requested information on different types of noise pollution (e.g., Concorde, rock music).
-468 Unsigned	1. Opposed program due to increased costs and restrictions on individual freedom.

Docket Number, Name, Affiliation	Comments
77-8-469 Frederick G. Crocker, Jr. Vice President and General Manager Safety Products Division Norton Company *(Insert Into 77-5)*	1. SONIC EAR VALUS and SONIC II protectors cannot be tested using ASA STD 1-1976/ANSI Sec. 3.19-1974 and thus cannot be assigned an NRR number. 2. Commented on Sec. 211.2.5 concerning exceptions to rating system. a. Second sentence should be limited to devices not already on the market. Alternative procedure should be used for those products already on the market. Application process for a "suitable alternative rating system" should allow a year after promulgation date to run tests and to prepare application. b. "Suitable" is not defined in phrase "suitable alternative effectiveness rating." Submitted that a "suitable" alternative rating system for a device for which NRR is not an accurate indicator can be independent and unrelated to NRR system. c. Sec. 211.2.5(c) does not define what constitutes "conclusive scientific test data" (suggested language) 3. Changes proposed are designed to permit continued marketing during testing and processing of application.
-470 Mrs. Don E. Van Meter	1. Complained about noise of vacuum cleaner. Model S3073). 2. Noted that demonstration on sales floor did not effectively indicate true noise level in home.
-471 Mrs. George W. Moor	1. Supported noise labeling program. 2. Complained about air conditioner's interference with speech.

Docket Number, Name, Affiliation	Comments
77-8-472 Mrs. Carl Bostick	1. Supported abatement of noise emitted by appliances. 2. Noisy products listed include vacuum cleaners, fans, food mixers, blenders and powered lawn and garden equipment.
-473 Shirley K. Jensen	1. Complains about noise emitted from air conditioner, vacuum cleaner, hair dryer, food blender, dishwasher, and coffee grinder.
-474 Mrs. Bill MacLean	1. Complained about "canned music" in various public places.
-475 Mrs. David J. Lukens	1. Expressed support for labeling program. 2. Commented on excessive noise of washing machine. 3. Supported a rating scheme which uses descriptions of "very loud," "loud," etc.
-476 Vera Kurkus	1. Complained about noise emitted by blender, meat grinder, vacuum cleaner, hair dryer, and lawn mower.
-477 R. J. Smith Pearl Harbor Survivors Association	1. Claimed that two extremely noisy products are vacuum cleaners and gasoline-powered lawnmowers.
-478 Mrs. H. N. Kelly	1. Supported noise abatement program. 2. Mentioned a vacuum cleaner, exhaust fans, and school bells as extremely noisy products.

Docket Number, Name, Affiliation	Comments
77-8-479 Mrs. Gretchen Ogle	1. Supported noise labeling program. 2. Commented on excessive noise emitted by a vacuum cleaner.
-480 Kathryn Kennedy	1. Supported noise labeling program. 2. Cited garbage disposal, electric broom, and vacuum cleaners as noisy appliances.
-481 Mr. and Mrs. Anthony P. Burasz	1. Complained about noise emitted by "Big Wheel" tricycles.
-482 Roy C. Patrick Hearing Aid Consultant	1. Recommended making illegal any modification of automobile or motorcycle exhaust system that produces greater noise emission.
-483 Mrs. Anthony B. Manera	1. Considered household appliance labeling as unnecessary but supported noise abatement actions directed at lawnmowers, motorcycles, and blowers.
-484 Unreadable	1. Complained about noise of a hair dryer.
-485 Phyllis A. W. Jamison	1. Complained about disruptions in her elementary school classes caused by aircraft based at Oceana Naval Air Station.
-486 Laurence B. Ritter	1. Listed noisy products: hairdryer, diswasher, oven fan, washing machine, and electric workshop tools.

Docket Number, Name, Affiliation	Comments
77-8-487 Paul L. Young	1. Supported strong emission regulations for motorcycles and especially trail bikes. 2. Expected EPA to notify him of its position and action.
-488 Ursula Stanton	1. Commented on excessive noise produced by a dishwasher.
-489 Eliana Woodford	1. Supported noise abatement controls for a vacuum cleaner, blender, and hair dryer.
-490 Unreadable	1. Supported labeling of electric appliances, mentioning dishwashers and vacuum cleaners.
-491 W. L. Bolyard	1. Supported noise abatement actions targeted at motor bikes, heavy duty trucks, and chain saws.
-492 Mrs. Albert E. Montague	1. Mentioned major noise offenders: vacuum cleaners, refrigerators, dehumidifiers, TV commercials, motorcycles, and lawnmowers.
-493 M. M. Walker	1. Complained about noise emitted by lawn and garden equipment, vacuum cleaners, and household appliances in general.
-494 Ms. Olive H. Kennedy	1. Complained about noise emitted by a vacuum cleaner.
-495 Mr. Allen D. Slater	1. Supported product noise labeling for electric appliances, especially vacuum cleaners, hair dryers, dishwashers, and air conditioners (window units). 2. Preferred a numerical rating system.

Docket Number, Name, Affiliation	Comments
77-8-496 Margaret Carrico	1. Expressed opinion that ONAC should focus on TV commercials.
-497 E. C. Blackburn	1. Supported noise labeling program. 2. Mentioned vacuum cleaner, digital clock, radios, and hair dryer as major offenders in his home.
-498 Mrs. Vernon Alvord	1. Commented on excessive noise emitted by a refrigerator.
-499 S. Smith	1. Complained about noise of a hairdryer. 2. Mentioned that he had not been aware of its noise emission qualities at time of purchase.
-500 Unsigned	1. Complained about noise emitted by a vacuum cleaner and refrigerator.
-501 Mrs. R. LeRoy Rollins	1. Suggested that many household products are too noisy. 2. Listed noisy appliances: vacuum cleaner, air conditioner, and food processor.
-502 E. Bailly	1. Stated that noise invades his privacy. 2. Listed noisy products: stereos, radios, televisions, tape recorders, CB radios, PA systems, vehicle exhaust systems, lawnmowers, power saws, motorcycles, aircraft, recreational vehicles such as dune buggies and snowmobiles. 3. Urged that national regulation is necessary rather than state control.

Docket Number, Name, Affiliation	Comments
77-8-503 Mrs. Delbert Christiansen	1. Expressed support for the labeling program. 2. Complained about the noise level of a refrigerator, central air conditioner, a vacuum cleaner and refrigerator.
-504 Dr. Sharon L. Scholl	1. Stated that local police have been no help in keeping down the noise level of motorcycles, thus it is necessary to get manufacturers to reduce noise. 2. Listed noisy products: air conditioners, vacuum cleaners, garbage disposals, blenders, electric scissors. 3. Noted the importance of such factors as duration of use, as is the case with air conditioners, and cases where one is not controlling the source of noise, as is the case with motorcycles.
-505 Pat Newport	1. Complained about the noise of her vacuum cleaner. 2. Stated that a label containing noise level information on the vacuum cleaner would have altered her purchase decision.
-506 H. Malcolm Lewis Westside Building Materials Company	1. Expressed support for noise control program. 2. Urged action on the noise of cement trucks, several of which are located in a plant next to their showroom.
-507 D. Roman	1. Listed noisy products: an air conditioner and an electric broom. 2. Observed that her 10-year-old air conditioner cools faster and is quieter than her new one.

Docket Number, Name, Affiliation	Comments
77-8-508 Mrs. Herbert Bergam	1. Complained about the noise level of her coffee maker.
-509 W. A. Hyland	1. Disagreed with idea that products need to be noise level labeled. Manufacturers will try to harvest lowest noise levels and end up producing inferior products costing more.
	2. Stated that labeling will increase cost of products.
	3. Felt that the proposal numbering of noise levels could be confusing to people.
-510 G. A. O'Brien Representative, 17th District, Illinois	1. Requested information on response to Docket #77-8-011
-511 M. D. Furman	1. Stated that equipment to be noise labeled is not used by people who understand decibels; (labeling) is stupid and costly.
-512 H. Hoffman	1. Requested information on noise regulations.

Docket Number, Name, Affiliation	Comments
77-8-513 Mrs. J. V. Johnson	1. Expressed annoyance about the small motorcycles ridden by children as well as the full-sized motorcycles.
-514 Mrs. Thomas Williams	1. Expressed support for noise abatement legislation. 2. Stated that their rights are being infringed upon by lawnmowers and motorcycles operated by others.
-515 Harry Hughes	1. Listed disturbing products whose noise comes from the exhaust pipes: automobiles with "High Performance" mufflers, motorcycles, jet aircraft, propeller driven planes, helicopters with rotor slap and diesel locomotives. 2. Stated that noise pollution is as much of a health hazard as exhaust fumes.
-516 William Andersen	1. Urged noise regulations for lawnmowers. 2. Expressed the opinion that both the older and the newer lawnmowers have the same noise level.
-517 A Concerned Citizen	1. Expressed support for noise regulation of motor bikes.
-518 Thomas R. Houck	1. Complained about the military aircraft that constantly fly over his vacation home in South Carolina.

Docket Number, Name, Affiliation	Comments
77-8-519 Allen O. Kundtson	1. Complained about the noise that issues constantly from the boiler smoke stacks of a packing plant in Wisconsin.
	2. Suggested that this noise drowns out other undesirable noises.
-520 F. Macenko, Chief Noise Control Division Environmental Protection of Canada	1. Expressed support for the labeling program.
	2. Stated the opinion that labeling, if used in conjunction with an adequate public information program, can help to minimize public exposure to excessive noise.
	3. Urged that the Noise Rating number reflect "in-use" noise rather than noise in a free running state.
	4. Urged the use of L_{eq} to help facilitate comparisons between products on the part of the consumer.
	5. Noted that the use of different rating schemes for different products would be of minimal use to the consumer.
	6. Suggested that products which have a similar function be given comparable noise ratings (such as a hand saw and a power saw).
	7. Suggested that either a label or flyer be included with the product to explain the purpose and meaning of the label and the rating, as well as containing examples of noise exposure which should not be exceeded during the average day.
-521 Marilyn Wilkins Samuelson	1. Complained about the noise of her hair dryer.
	2. Expressed support for labels on all appliances with electric motors.

Docket Number, Name, Affiliation	Comments
77-8-521 (Continued)	3. Suggested that noise levels be expressed in decibels. 4. Suggested that measurements be taken at the distance of six inches or less.
-522 Ruth Lynn	1. Listed motorcycles and stereos as being excessively noisy. 2. Suggested that "reason and sense" be exercised in noise control actions.
-523 Edwin W. Abbott Air Transport Association of America	1. Stated that the Air Transport Association has no comments about the general provisions of the product noise labeling regulatory program.
-524 Mrs. Grace Norris	1. Complained about a recreational flying club near her home.
-525 Mrs. Richard Frazak	1. Expressed support for noise abatement. 2. Expressed support for noise labeling of vacuum cleaners.
-526 Lawrence H. Hodges Vice President J. I. Case Co.	1. Supported reasonable labeling of products. 2. Viewed labeling as a "viable alternative" to unnecessary and unreasonable noise emission standards. 3. Commented on proposal: a. Recommended permanent label. b. Opposed use of label information on range of noise labels for a product class, due to costs, importance of other factors in purchaser's decision, and possible regional differences in product availability. c. Suggested that statement about measurement methodology be placed on label.

Docket Number, Name, Affiliation	Comments
77-8-526 (Continued)	d. Recommended a noise rating in dB(A) *versus* an acoustic rating descriptor. e. Preferred manufacturer's self-certification. 4. Submitted letter from Case to Dawes and Moore with respect to noise abatement (in order of preference): (1) voluntary labeling, (2) mandated labeling without noise standards; and (3) mandated labeling with minimal noise standards. 5. Submitted into record "Comments to Dawes and Moore regarding Labeling Noise Levels of Wheel and Crawler Loaders and Dozers," which: a. Expressed support for voluntary product labeling as a viable alternative to emission standards. b. Described University of Nebraska information on tractor noise and how the publication of this data supposedly produced a demand for quieter vehicles. c. Proposed sample label for wheel/crawler loader/dozers which contains a maximum noise level certification.
-527 Mrs. Charles Koofmans	1. Expressed support for noise labels on appliances. 2. Listed noisy appliances: vacuum cleaners, hair dryer, exhaust fan, air conditioners, cars and tractors.
-528 Kelly Bright	1. Expressed support for noise labeling program. 2. Noted loud noise level of a vacuum cleaner and blender. 3. Observed that noise level is not necessarily related to efficiency.

Docket Number, Name, Affiliation	Comments
77-8-529 Bruce Nordquist Public Health Environmentalist	1. Expressed support for noise labeling program.
	2. Listed noisy appliances he is aware of due to his field experience: air conditioner, workshop tools, powered lawn and garden equipment.
	3. Noted that the danger of the above stems from the long periods of use.
	4. Noted that industry has improved many products by solid construction, better balanced motors and muffler exhaust systems.
	5. Listed other noisy products: children's toys such as tricycles with hollow plastic wheels, vacuum cleaners, dishwashers, hair dryers, clothes washers and dryers, and food mixers.
-530 Mrs. Elizabeth Adamson	1. Expressed support for labeling programs.
	2. Listed noisy appliances: a vacuum cleaner, hair dryer, garden and shop tools.
	3. Stated that her dishwasher is extremely quiet.
-531 Mrs. Patricia Cole Blake	1. Expressed support for the labeling program.
	2. Suggested that federal action is necessary for a successful fight against noise as local police and health departments are powerless or disinterested.
	3. Suggested that cars and motorcycles need to be labeled.

Docket Number, Name, Affiliation	Comments
77-8-532 Nada Yanshak Brillante	1. Stated that both brands of refrigerators she owns are quite noisy. 2. Urged that refrigerators be considered for labeling even before dishwashers, because they are constantly running. 3. Stated that for her, the noise a refrigerator makes is of greater importance than its price, size or features.
-533 Mr. and Mrs. R. Robert Wells	1. Listed noisy appliances: a vacuum cleaner and electric lawn edger. 2. Questioned why products couldn't be manufactured to operate more quietly.
-534 William Sorber, Sr.	1. Complained about the noise of their refrigerator, stating that it keeps them awake at night. 2. Stated that they have received only negative responses from the manufacturer, who is unsympathetic to noise complaints.
-535 Greg Serafina	1. Complained about noise pollution in general. 2. Argued that power lawn and garden equipment are the worst offenders because they are used outdoors and are more easily heard by others (third party disbenefits).
-536 Fred Koenig	1. Expressed support for controlling the noise level of motorcycles, which are louder than jet planes near his home.

Docket Number, Name, Affiliation	Comments
77-8-537 Mrs. Ruth L. Levine	1. Suggested that a comparative noise level standard be developed, so that personal or phone conversation can be carried on in the same room, or a doorbell or telephone ring can be heard from another room.
-538 Mrs. J. W. Hunter	1. Suggested appliances for labeling program: air conditioners, vacuum cleaners, mixers, blenders and anything with a gas or electric motor. Mentioned specifically her own refrigerator.
	2. Suggested that quieter appliances of the same type were made in the past, stressing her experience with refrigerators.
-539 Charles S. Carlyle	1. Expressed support for noise control; stating that noise is as much of a problem as air or water pollution.
	2. Expressed the opinion that labeling is not a useless idea, but should have low priority.
	3. Observed that it is not possible to legislate the sensitivity of one's neighbors.
	4. Complained about the noise of barking dogs and recreational vehicles, particularly snowmobiles and trail bikes.
	5. Suggested that the solution is to tax luxury vehicles, in addition to regulating them.
	6. Stressed the greater importance of reducing the noise levels of rural areas as opposed to urban areas.

Docket Number, Name, Affiliation	Comments
77-8-540 Douglas A. Fraser, President International Union, UAW	1. Stated that the UAW receives more complaints about noise than any other occupational hazard. 2. Expressed support for labeling and noise regulation program. 3. Emphasized the importance of regulating the noise of industrial machinery, because of length of exposure for the individual. 4. Suggested that it is easier to reduce the noise level of industrial machines at the time of production, rather than using OSHA or labor contract procedures on a plant-by-plant basis.
-541 Aurella Worrell	1. Listed noisy appliances: air compressors and air conditioners.
-542 Mrs. W. M. Bingham	1. Complained about the noise level of television commercials and previews. 2. Listed products that need labeling: lawn mowers, vacuum cleaners, garbage trucks, and railroad tracks.
-543 Mary Wright	1. Expressed support for noise rating program. 2. Requested the noise ratings of heaters, electric fans and air conditioners.
-544 Ruth Kuper Levine	1. Expressed support for noise labeling program. 2. Noted the particularly high level of noise in urban areas.

Docket Number, Name, Affiliation	Comments
77-8-545 Tim Mueller	1. Suggested products for labeling: fans, air conditioners, dehumidifiers, humidifiers, dishwashers, refrigerators, freezers, clocks, mixers, stove exhaust fans, vacuum cleaners, can openers, lawnmowers, chain saws, hedge trimmers, and motor vehicles. 2. Suggested using a decibel level as a rating scale, along with a comparison to give the rating meaning.
-546 Thomas D. Rossing Professor of Physics Northern Illinois University	1. Expressed support for noise labeling program. 2. Suggested labeling all powered appliances, including power tools, fans and pumps. 3. Suggested an enforcement method whereby a purchaser would be able to recover one-half of the purchase price if the product had no label or carried an incorrect label.
-547 Mrs. C. E. Lighter	1. Complained about the noise level of an air conditioner. 2. Stated that this air conditioner is advertised as quiet. 3. Stated that the air conditioner they have is also noisy.
-548 M. B. Doyle, President International Snowmobile Industry Association	This entry included: 1. List of average sound emissions of all 1977 model snowmobile produced by seven participating manufacturers, tested by United States Testing Company, Inc. 2. Operational Sound Level Measurement Procedure for Snow Vehicles–SAE J1161 and SAE J192a.

Docket Number, Name, Affiliation

Comments

77-8-548 (Continued)

3. Sample copy of the Snowmobile Safety and Certification Committee Sound Rating Label.

4. News release issued by the International Snowmobile Industry Association on September 19, 1977.
    a. Announced the adoption of a voluntary sound emission labeling program for all new snowmobiles.
    b. Discussed a labeling procedure whereby each snowmobile will bear a label showing its sound rating.
    c. Noted that the industry had achieved a 94 percent reduction in sound emissions of snowmobiles since 1968—a voluntary reduction due, in part, to EPA's actions.

5. Document describing the labeling program, which discusses the emissions standards.
    a. Noted that the emission rating consisted of two parts, a maximum sound emission at wide open throttle and a typical sound emission at 15 mph. A good deal of variation between these two measures can be present due to size of machine.
    b. Observed that variations in temperature, humidity, elevation and surface conditions can produce a sizable error in measurement, which is compensated for by a 2dB(A) tolerance in the measurement.
    c. Indicated that it would be inappropriate to include the range of snowmobile ratings on a label, because of the lack of precision in the measurement and the clustering of all models around a single sound level.
    d. Suggested that it is difficult to produce a range of snowmobile ratings until the end of the year since snowmobiles are produced all year.
    e. Recommended against putting the manufacturer and model number on the label, stating that such action meant added expense and logistical problems, since other procedures are available to guard against misuse of labels.
    f. Provided details of labeling process.

Docket Number, Name, Affiliation	Comments
77-8-549 Elisabeth G. Garrison	1. Expressed support for noise abatement.
-550 Rhea A. Bahlion	1. Suggested a "numbering system" as an appropriate noise level rating as it would be easy to understand.
	2. Listed noisy appliances: shop tools such as skill saws, jigsaws, electric drills, mills, bridgeports and lathes; garden tools such as tillers and lawnmowers; dishwashers, blenders, electric coffee grinders and refrigerators.
	3. Suggested that attention also be directed to heavy trucks, motorcycles, snowmobiles and chain saws.
-551 Mrs. Elizabeth E. Bricks	1. Listed sources of noise: blowers in public restrooms, vacuum cleaners, cars, motorcycles, airplanes, plumbing in the walls.
-552 Roy R. Morris, representing American Rental Association–supplement to oral testimony by Howard W. Burnett, in Washington, D. C. on September 16, 1977	1. Encouraged careful consideration of the economic impact that any action might have on a product's manufacturer or the purchaser, particularly for small manufacturers.
	2. Expressed support for the determination of the feasibility of the regulation, specifically, can the noise level of a product be meaningfully and accurately measured?
	3. Urged consideration of the utility of noise labeling.
	4. Suggested that noise labeling is of little utility, as their members have noted little, if any, demand for "silenced" equipment, especially if this makes it more expensive.
	5. Noted that the labeling noitce regulation is unclear and ambiguous with respect to the differences between "ultimate purchaser" and "prospective user" (Sec. 8), a factor particularly pertinent in the case of rental equipment.

Docket Number, Name, Affiliation	Comments
77-8-552 (Continued)	6. Noted that the regulations (Section 8) call for notice to be given to the prospective user and give the Administrator authority to decide whether notice to the ultimate purchaser is sufficient or whether notice should be given to the prospective user in some other manner. 7. Held that Congress never intended to require notice to every individual who might operate the equipment, but only to the ultimate purchaser. 8. Indicated that to require notice of noise to be given to each user a permanent label, such as are stamped out of metal, would be necessary to withstand the types of repeated use their products perceive. 9. Indicated that periodic reattachment of paper or plastic labels by a rental supplier would be totally impractical. 10. Suggested that the regulations be amended so that the requirements are satisfied when notice is provided to the ultimate purchaser (the rental company) at the time of sale, rather than to each user.
-553 Mrs. Hilbert L. Norton	1. Expressed support for noise abatement in homes. 2. Listed noisy appliances: washing machines, mixers, dishwashers, vacuum cleaners and refrigerators. 3. Noted that refrigerators are a unique case in household appliances, since they must run constantly. 4. Complained in particular about her own refrigerator, stating that it is much louder than her old one. 5. Stated that she has contacted the company and the regional distributor and was ignored. 6. Stated that salesmen in two sales rooms told her there was no such thing as a quiet refrigerator.

Docket Number, Name, Affiliation	Comments
77-8-554 Carl E. Curet	1. Expressed support for EPA programs and actions in general. 2. Complained about traffic noise, specifically tractor trucks, motorcycles, motor bikes, garbage trucks and diesel buses. 3. Suggested that manufacturers should be regulated. 4. Suggested that elected city officials should be held responsible for enforcement of noise regulations.
-555 R. S. Gales, Chairman Subcommittee on Noise Standards Acoustical Society of America	1. Discussed the Society's scale for expressing the noise of small noise sources, specifically the Product Noise Rating (PNR) in decibels–the space average of A-weighted sound level at a distance of one meter from a noise source over a reflecting plane (ASA Std. 4-1975; ANSI S3.17-1975). 2. Argued in favor of this method, as it combines the accuracy and reproducibility of a sound power measurement with the consumer relatability of A-weighted sound level in decibels. 3. Noted that this measurement is particularly appropriate for home appliances, as it gives the level in a room with absorbent walls. 4. Argued that a scale in decibels will be useful to the consumer as it is possible for the consumer to become familiar with the scale. Mentioned that we are becoming a noise-conscious society. 5. Opposed use of 1 to 10 rating scheme on a symbolic scale. 6. Indicated that the best information available should be presented to the consumer. In other words, use the actual dB value rather than employing 5dB steps as classes.

Docket Number, Name, Affiliation	Comments
77-8-555 (Continued)	7. Enclosed reprint of his paper "The Role of ANSI S3-47(S1) in Coordinating Noise Standards" presented at the Proceedings of NOISE–CON 75, pages 259-266, 1975.
-556 Ervin Poduska Professor at Kirkwood Community College	1. Suggested the use of dBA or some decibel rating on a label, as it is an absolute standard that is already meaningful to many which could be assimilated by the rest of society with a minimum of public education.
	2. Stated that his students easily learn dB(A) measurement.
	3. Suggested that acoustical tile, ear protectors and barrier devices be labeled.
	4. Suggested that the meaning of noise ratings for appliances and their effect on one's health be published, but not necessarily on the label.
-557 Mary Hochman	1. Complained of noise levels of a refrigerator, noting that sales representative told them it was normal.
	2. Stated that consumers have a right to be aware of noise levels for refrigerators.
	3. Argued that manufacturers should design quieter refrigerators.
-558 Elinor M. Bowman	1. Complained about her neighbor's power saw.
-559 Douglas A. Fraser, President International Union, UAW	Same as Docket Entry 77-8-540.

Docket Number, Name, Affiliation	Comments
77-8-560 Unreadable	1. Suggested consideration of automobiles and motorcycles under new regulations.
-561 Earl Hardage Mrs. Irene Hardage Celia Turner Fred Salter	1. Suggested reducing noise on cars, as well as school bus brakes.
-562 Dr. Joan Stephens Audiologist	1. Expressed support for the noise labeling program. 2. Stated that she would base her purchase decision in some cases on noise levels. 3. Suggested labeling ear defenders, vacuum cleaners, dishwashers, gardening equipment, blenders, garbage disposals and air conditioners.
-563 Gerald E. Starkey, P.E. Noise Abatement Specialist County of Santa Clara Environmental Management Agency	1. Enclosed comments he presented at the San Francisco labeling hearings on September 22, 1977. 2. Included a list of devices which have caused noise complaints, as requested by a panel member. 3. Expressed support for the labeling program.
-564 Anonymous	1. Complained about the noise level of an electric hair dryer. 2. Stated that if the noise level had been stated on the package, she wouldn't have purchased it.

Docket Number, Name, Affiliation	**Comments**
77-8-565 Webster and Chamberlain Counsel to Power Tool Institute (PTI)	1. PTI recommended that the acoustic rating descriptor be Noise Power Emission Level expressed in bels, or described in ANSI S1.23, 1976. The ANSI standard applicable to the product being labeled should be used for the measurement, and if no standard is available, EPA should work with manufacturers to develop one. 2. PTI suggested the comparative acoustic rating information be deleted due to impracticality and resulting inequities. 3. PTI recommended that company name, location, and model number need not be on the label if they appear elsewhere on the product.
-566 John P. Reardon Air-Conditioning and Refrigeration Institute	1. Requested extension of public comment period to November 28, 1977, to permit ARI to incorporate an ARI meeting on November 16 in its Supplementary Statement on the Background Document.
-567 Melvin F. Kuhn	1. Requested information about "noisy appliances."
-568 Hon. Elford A. Cederberg U. S. House of Representatives	1. Expressed skepticism about EPA's concern over household appliance noise, when it is the outside of the home that should be targeted. 2. Requested explanation of EPA's activities, especially as to how they will assist consumer's purchasing decisions.

Docket Number, Name, Affiliation		Comments
77-8-569 James M. Farrell (letter forwarded by Sen. Griffin; reply requested)	1.	Requested the information on surveys which led to the statement that "the American home is becoming increasingly noisy," as quoted in the September 1977 issue of *Appliance Manufacturer* (copy attached).
	2.	Requested information on the size of the program's budget and on "the number of noise complaints that have been received by government agencies that has caused governmental action."
-570 Mrs. D. D. Fisher	1.	Complained about noise made by motorcycles, cars, and power saws, but asserted that labeling would be ineffective because many products are made noisier after being purchased.
	2.	Proposed that a strong noise nuisance law be passed and strictly enforced.
-571 Mrs. H. Stovall	1.	Complained about noise level of frost-free refrigerator.
-572 Larry F. Stikeleather, Ph.D.	1.	Expressed opposition to the labeling program because of increased taxes and increased prices.
-573 James Egger	1.	Recommended that railroad trains (and their whistles) be given major attention by EPA in its noise abatement program.
-574 Jean C. Pressler	1.	Praised efforts being made toward noise control.
	2.	Complained about the loud music that is broadcast in shopping establishments and asked for information about possible solutions.

Docket Number, Name, Affiliation	Comments
77-8-575 David P. Reed	1. Expressed opposition to the noise labeling program due to increased costs, higher taxes, limited effectiveness of similar regulations and relative quietness of household appliances.
-576 Mrs. Evelyn Beeunas	1. Requested that EPA "do something about" the following noise offenders: motorcycles and motorbikes, "Big Wheels," cars with bad mufflers, power lawnmowers, large trucks, automobiles, and vacuum cleaners.
-577 John L. Bennett Safety Assurance Manager Black and Decker Manufacturing Co.	1. Black and Decker suggested that acoustic rating descriptor always be Noise Power Emission Level expressed in bels as described in ANSI S1.23.1976, Method for the Designation of Sound Power Emitted by Machine and Equipment.
	2. The NPEL should be measured in accordance with the ANSI standard applicable to the type of product to be labeled, and if an ANSI standard does not exist, EPA and manufacturers should develop one.
	3. Black and Decker suggested deletion of comparative acoustic rating information.
	4. Recommended that company name, company location, and model number not be required on label if they appear elsewhere on the product.
-578 Haywood Clark Smith	1. Complained about the "waste of taxpayer's money" on various EPA programs.
-579 Claude A. Frazier, M.D.	1. Expressed support for labeling program, noting its value for persons with small children, nervous disorders, or sick people in the house.
	2. Referred to article in *Asheville Citizen* and requested reprints on Noise Pollution.

Docket Number, Name, Affiliation	Comments
77-8-580 M. P. Nevotti	1. Suggested noise standards for motors on appliances, fans, and the baffles on florescent lights.
	2. Stated that home has become noisy and that emphases on costs and "miniaturization" have brought about a noisy environment.
	3. Complained especially about products which do not operate for short periods of time (e.g., refrigerators, air conditioners, and furnace fans).
-581 Nora Priest	1. Complained about noise emitted by neighbors' air conditioners and expressed support for meaningful noise control in this area.
-582 Mrs. Helen M. Butter	1. Complained about noise emitted by tools used by gardeners.
-583 Illegible	1. Expressed concern about the noise level of mufflers.
	2. Indicated that she thought the program was a waste of time.
-584 Enid M. Johnson	1. Expressed support for efforts to reduce the noise level of household appliances.
	2. Argued that mandatory labeling would result in long-run noise reduction because of competition.
-585 Edward I. Wolf	1. Expressed support for the labeling program.
	2. Expressed support for using decibels for the noise level rating.

Docket Number, Name, Affiliation	Comments
77-8-586 Anonymous	1. Stated that noise was painful for many persons.
	2. Expressed support for labeling products.
-587 Don W. Robinson	1. Suggested terminating the noise labeling and regulation programs.
	2. Expressed objections to federal interference in the life of the individual.
	3. Enclosed a copy of an article which argues against noise labeling.
-588 Anonymous	1. Expressed support for the labeling program.
	2. Stated that noise levels are excessive and can be eliminated.
-589 Whirlpool Corporation	1. Indicated a shared concern with EPA about the potential damage caused by noise.
	2. Urged EPA to research the effects of noise in the home as well as the economic costs of labeling to consumers and manufacturers.
	3. Indicated that the marketplace will adequately dictate the manufacturer's responses to the needs of the consumer.
	4. Questioned the lack of hard data on the adverse impact of home noise levels.
	5. Noted the consumer's belief that sound and properly functioning equipment are equated.
	6. Observed that both dishwashers and vacuum cleaners fall well below (65 to 67 dBA) the OSHA standard of 90 dBA.

Docket Number, Name, Affiliation	Comments
77-8-589 (Continued)	7. Emphasized the short duration of use of dishwashers (1.14 times per day) and vacuum cleaners (1 hour per week).
	8. Noted that the consumer can choose when he wishes to run an appliance.
	9. Held that the welfare of a consumer is best protected by his own logical, discretionary use of appliances.
	10. Expressed concern with the plethora of labeling programs and with the government's ability to coordinate and prioritize the total labeling effort.
	11. Maintained that the cost of a labeling program may negate any value the label would have as a purchase variable.
	12. Included several early cost estimates, stressing the large cost of retooling production facilities.
	13. Mentioned a consumer survey done by *Better Homes and Gardens* in which "noise was ranked seventh out of ten product priorities. Product durability, less costly repairs, energy efficiency, price, ease of cleaning and easier operation were ranked ahead of noise."
	14. Suggested EPA recommend the inclusion of sound information in the manufacturer's Use and Care Guides. Such information would increase consumer awareness of noise.
	15. Indicated that their toll-free phone line had received few calls about normal product noise.

Docket Number, Name, Affiliation	Comments
77-8-590 Roderick T. Dwyer Director of Government Relations Outdoor Power Equipment Institute (OPEI)	1. OPEI preferred a mandatory federal labeling standard to a mandatory noise level standard for lawn and garden equipment, though they still have criticisms of the proposed program. 2. OPEI objected to use of "public attitudes" as product selection criteria. 3. Criticized issuance of general provisions before product-specific regulations, since both must be considered in tandem. 4. Suggested that manufacturers be allowed to test products at either EPA-designated test facilities or their own facilities (if certified by EPA). Otherwise there will be excessive duplication, since manufacturers will still perform their own tests. 5. Suggested use of Section 8 of ANSI B71.1 Safety Standard as test methodology for lawnmowers. OPEI recommends that EPA either adopt an existing, well-accepted standard or develop simple test procedures acceptable on an international basis. 6. Concerned that EPA's economic analyses will not extend to the impact of the regulations on the marketplace or, possibly to the costs of recordkeeping. 7. Emphasized the need for EPA to look at labeling programs which may be in conflict with noise labeling. 8. Strongly suggested use of the dBA for testing and rating system. 9. Recommended that label or brochure contain information about test methodology.

Docket Number, Name, Affiliation	Comments
77-8-590 (Continued)	10. Mentioned problems of labeling lawn and garden tractors (which have various attachments and variable speeds) and simulating realistic test environment. Other test methods include SAE XJ11-74 and SAE XJ11-75. 11. Raised questions about the feasibility of Comparative Acoustic Rating Range, though OPEI thinks it is a good concept. 12. Commented on need for aggressive consumer education campaign and suggested provision of additional data on a hang-tag. 13. Criticized requirements pertaining to testing exemptions for products not meant for general sale. 14. Indicated that there should be a reasonable margin for error in individual product compliance with noise rating. 15. Criticized severely the requirement that label verification be based on product samples. OPEI noted that this procedure would force delays in assembly and packaging of production units until testing and label production was completed. 16. Suggested that the "cease to distribute" provision be deleted. OPEI does not believe the Noise Control Act gives such authority to the Administrator. 17. Recommended periodic internal evaluation of the program as to its effectiveness in changing consumer behavior.

Docket Number, Name, Affiliation	Comments
77-8-591 C. F. Newburg Chairman, Government Affairs Committee National Association of Truck Stop Operators	1. Expressed opposition to the labeling program, which represents an infringement on freedom of choice. 2. Complained that sections of the proposed regulations are directed at retailers (e.g., truck stop operators), who should not be responsible for the acts of manufacturers. He mentioned that retailers should not be responsible for labels damaged in transit.
-592 Sidney J. Flock	1. Expressed opposition to labeling program as a waste of tax dollars.
-593 Mrs. Susan Alperin	1. Expressed support for labeling program and mentioned a lawnmower, hairblower, blender, vacuum cleaner, dishwasher, and motorcycles as major noise offenders.
-594 Mrs. C. L. Mercer	1. Complained about noise emitted by freezer and fluorescent light fixture.
-595 Walter Brukwinski	1. Expressed support for labeling program as a means of permitting greater consumer choice in the marketplace.
-596 Ruth Moses	1. Expressed support for labeling program and noise abatement efforts. 2. Commented on excessive noise level associated with a washing machine, barking dogs, stereos, and especially background music in public places.

Docket Number, Name, Affiliation	Comments
77-8-597 Elbert O. Schlotzhauer	1. Though upset with the noise from aircraft, traffic, and power tools, he asserted that the labeling program is a waste of money because most people would still purchase the cheaper, but noisier product. 2. Commented on the problems associated with a product requiring a new muffler.
-598 James W. Butler	1. Requested advice on what legal action he or EPA could take against the manufacturer of a tractor, which produces an excessive level of noise for the operator.
-599 Constance M. Gibson	1. Expressed support for labeling of household appliances and for direct noise abatement. 2. Gave vacuum cleaner and mixer as examples of noisy products.
-600 Charles Painter	1. Expressed support for a requirement that manufacturers disclose information on product noise levels.
-601 Mrs. Forrest M. Sullivan	1. Expressed support for the labeling program, noting that the consumer would welcome the opportunity to make a choice based on product noise ratings.
-602 Mr. Evan A. Johnson (Remarks made in phone conversation with EPA's Noise Representative, Region II, as described by the latter.)	1. Stated that manufacturers should make noise measurement data available to the consumer. He cited his bad experience with a refrigerator.

Docket Number, Name, Affiliation	Comments
77-8-603 H. Bruce Prillaman	1. Expressed opposition to the labeling program because it will result in higher costs, will not be effective in changing consumer preferences, and is concerned with a problem that is comparatively unimportant.
-604 Margaret House	1. Expressed strong support for the labeling program. 2. Complained about the noise produced by a no-frost refrigerator and the difficulty of comparing the noise qualities of different models at the time of purchase.
-605 Mars Gralia, D.Sc.	1. Suggested that EPA require labeling on all products (but not specific noise level); that the measurement be taken where the noise is greatest and after 20 percent of product's estimated life; and that EPA consider both air- and structure-borne noise. 2. Expressed support for immediate implementation of a labeling program.
-606 Miss S. Victoria Krusiewski	1. Expressed interest in having quieter household appliances, especially vacuum cleaners, dishwashers, and blenders.
-607 Martha Murdock	1. Complained about noise of television.
-608 Kathleen C. Harrigan	1. Stated that labels on appliances would have detrimental effects on the environment (due to use of paper, ink, etc.) without having compensatory benefit. 2. Suggested possibility of conveying information on packaging, warranty card, or existing label.

Docket Number, Name, Affiliation	Comments
77-8-609 Mrs. Charles Ladenberger	1. Expressed support for product noise labeling. 2. Complained about noise emitted by refrigerator and failure of store to have demonstrator models in operation.
-610 Larry J. Eriksson Vice-President, Research Nelson Industries, Inc.	1. Submitted two reports that he authored: a. *Power or Pressure–A Discussion of Current Alternatives in Exhaust System Acoustic Evaluation;* b. *Discussion of Proposed SAE Recommended Practice SJ1207, Measurement Procedure for Determination of Silencer Effectiveness in Reducing Engine Intake or Exhaust Sound Level.* 2. First paper (a) discussed various procedures for evaluation of exhaust system performance, considered both analytical and experimental techniques, compared these approaches by using measurements on actual engine noise, and rank-ordered them on b basis of accuracy and cost. a. Mr. Eriksson discussed different modes on approaches to rating mufflers–i.e., using the actual level of noise or the difference between silenced and unsilenced levels. b. Mr. Eriksson emphasized the importance of determining whether sound pressure or sound power offers a more meaningful measurement. He suggested the sound power level, if the location of affected persons cannot be clearly delineated. c. Mr. Eriksson mentioned various tradeoffs associated with the selection of a given technique and said that final muffler evaluation usually demands an actual engine test.

Docket Number, Name, Affiliation	Comments
77-8-610 (Continued)	d. He ranked evaluation methods according to their accuracy as follows: (1) actual engine; (2) standard engine, (3) simulated source, (4) analytical model, and (5) parameter evaluation. The ranking based on costs, with the least costly first, was: (1) parameter evaluation, (2) simulated source, (3) analytical model, (4) standard engine, and (5) actual engine. 3. Second paper (b) outlined various considerations and limitations associated with the proposed SAE recommended practice XJ1207. Two limitations are the "lack of a direct correlation to other overall pass-by tests" and the "lack of specification of the subjective quality of the exhaust or intake noise."
-611 Roy W. Muth Director of Technical Services International Snowmobile Industry Association	1. In this statement, Mr. Muth expanded on his remarks given orally at the Washington hearings and provided information in response to requests from EPA panel members. 2. Acknowledged that at the present time ISIA does not inform the consumer of the sound levels at the operator's ear. 3. Stated that because of anti-trust constraints, ISIA does not become involved in manufacturers' warranty programs. 4. Mentioned other enclosures submitted into the record which describe the field audit performed by the independent test laboratory for the purpose of assessing safety standards of snowmobiles. Manufacturers in the SSCC safety standards program must test *every* model produced *every* year.

Docket Number, Name, Affiliation	Comments
77-8-611 (Continued)	5. Asserted that no information was available on the costs of snowmobile sound level test. 6. Enclosed a paper explaining the snowmobile industry's voluntary sound emission labeling program and several problems affecting snowmobile labeling. a. Noted that most 1977 snowmobiles have a noise level falling within a 6 dBA margin of error around the maximum emission level of 78 dBA. b. Expressed opposition to the range information. c. Said that six of the seven manufacturers of snowmobiles producing more than 500 units annually have agreed to participate in the voluntary program. d. Outlined the procedures followed by the independent testing company responsible for auditing and monitoring.
-612 A. F. Barber, Jr. Town Office Supply Hendersonville, North Carolina	1. Complained about noise produced by the business and household appliances which his company handles. 2. Expressed support for whatever action is needed to correct these conditions.
-613 Joyce Pacer	1. Expressed support for labeling program. 2. Complained about noise emitted by vacuum cleaners, lawnmowers, trucks, and mixers. 3. Commented on health hazards presented by noise-makers in the work place.

Docket Number, Name, Affiliation	Comments
77-8-614 Pete Sirois	1. Expressed opposition to labeling program, and in particular to the labeling of shop tools which he uses in his occupation. He complained that the program would raise the costs of these tools.
-615 Patricia H. Robinson	1. Mentioned various noise complaints: (1) military aircraft from Subic Bay Naval Base; (2) construction noise; (3) noise in military exchanges; and (4) motorcycle and automobile noise.
	2. Requested information about noise regulations for exchanges, about controls on cars and motorcycles, and regulations pertaining to noise at Subic Bay.
-616 Illegible	1. Complained about noise of refrigerator.
-617 Peggy W. Norris	1. Expressed support for the labeling program.
	2. Mentioned that she would use the information to "comparison shop."
	3. Suggested that some way was needed to describe the high-pitched noise made by televisions.
-618 Ms. Areta Powell	1. Complained about noise emitted by frost-free refrigerator plus the fact that she was not informed of the product's annoying noise emission properties by the salesman.
-619 Edith Mitchell	1. Expressed support for the labeling program, since there is no way to test products before they are purchased.

Docket Number, Name, Affiliation	Comments
77-8-619 (Continued)	2. Suggested including on the label the decibel level as well as certain frequencies such as the starting and stopping frequency in the case of refrigerators. 3. Mentioned her noisy refrigerator.
-620 Mrs. J. C. Brown	1. Complained about the noise of her washer and refrigerator and her central air conditioner.
-621 E. Bruce Butler Attorney	1. Argued that the proposed standard creates unnecessary confusion and difficult procedural issues when implemented for a particular product, since it neither applies to a specific product nor is necessarily appropriate to all products. 2. Further argued that the noise regulations are useless because each product must be considered individually in terms of its noise characteristics, testing procedures and labeling susceptibility. 3. Noted labeling difficulties in the instance where an engine is manufactured separately from the rest of a product. 4. Noted the absence of generally accepted noise standards for some products. 5. Suggested the inclusion of noise information on hang-tags or in the owner's manual in those instances where many labels are already on a product. 6. Urged the use of cost-benefit analysis, weighing the cost of testing and labeling a product against the consumer's desire for noise information. 7. Stressed the need to examine individual products according to the nature of the product, the existing testing procedures, and the existing labeling requirement.

Docket Number, Name, Affiliation	Comments
77-8-622 E. G. Ratering, Director Vehicular Noise Control General Motors Corporation	1. Held that EPA is exceeding its authority in the proposed Noise Labeling Standards and wanted its general comments considered in future product-specific rule-making action. 2. Noted that specific products must be chosen according to the designated criterion before the noise labeling requirements are established. 3. Stated that labeling requirements cannot be established for the purpose of consumer information unless limited to products capable of adversely affecting public health or welfare. 4. Suggested that labeling will increase cost, which will ultimately be absorbed by the consumer. Made specific suggestions to keep costs down. 5. Expressed concern about labels required by other programs. 6. Held that Sec. 211.1.9, inspection and monitoring, and Sec. 211.1.11(a)(1), testing, exceed EPA's statutory authority and violate constitutional principles. 7. Made specific suggestions for clarification of Sec. 211.1.10-3(c) on export exemptions. 8. Indicated that Sec. 211.1.9(f)(1) and Sec. 211.1.11(b)(2) which concern the EPA's authority to issue "cease distribution" orders are in conflict with Sec. 11(d)(1) of the original Act. 9. Insisted that products be selected on the basis of actual sound level data and not according to annoyance levels as expressed in comments for the public docket. 10. Noted the difficulties involved in selecting a label format prior to selection of a product and selection of the significant information for that product.

Docket Number, Name, Affiliation	Comments
77-8-622 (Continued)	11. Made specific recommendations for the label regarding format color, contrast, and type.
	12. Referred to specific problems the consumer might have in understanding the noise range on the label, arguing that information is needed to give meaning to the range.
-623 Frank E. McLaughlin Acting Director Office of Consumer Affairs DHEW	1. Expressed support for the noise labeling and regulatory program with qualifications.
	2. Suggested use of a pilot program to help determine the degree to which price is affected by the regulations, allowing the costs and benefits to be evaluated.
	3. Criticized the model label in terms of two components: the acoustic rating descriptor and the comparative acoustic rating information.
	4. Stressed the necessity for additional acoustic information on the label to facilitate comparisons, such as a color coded system.
	5. Suggested including not only the range of information, but the average value for products of that type.
	6. Urged the development of a consumer information program consisting of radio and television spots, magazine feature articles, and brochures so that explanatory information is widely available.
-624 Igor Kamlukin Vice President Environmental Product Engineering Briggs and Stratton Corporation	1. Expressed support for a voluntary labeling program, which would establish consumer interest, allow operation of the market mechanism with a minimum of disruption and keep costs and government involvement to a minimum.
	2. Argued that manufacturers would report noise ratings as accurately as other product information.

Docket Number, Name, Affiliation	Comments
77-8-624 (Continued)	3. Urged EPA to establish and standardize a method of measuring, rating and reporting the noise of a product.
	4. Suggested that noise reduction should be achieved with minimal government involvement and minimal cost to the consumer.
-625 A. K. Forbes Pilemaster Manager Terresearch Limited Foundation Engineers and Contractors	1. Brought to EPA's attention their Pilemaster Machine which, according to the enclosed article, has only a 62 dBA noise level.
	2. Included several articles on the machine as well as a series of dBA measurements under construction and nonconstruction conditions.
-626 George Mosher President National Business Furniture	1. Expressed support for the EPA's noise control program.
	2. Argued that consumers are willing to pay for noise control.
	3. Stated that quiet can be related to a positive perception of a product, as it has been in cars.
	4. Complained about car mufflers, vacuum cleaners and lawnmowers as sources of noise.
-627 Gerald A. Stangl, Ph.D. Design Engineer The Charles Machine Works, Inc.	1. Suggested that EPA consider labeling in lieu of regulation where possible, allowing the market to operate to reduce noise.
	2. Urged the development and use of a common descriptor and rating scheme.
	3. Suggested the use of a multi-sided average of sound pressure rating at a particular distance and operating mode for mobile outdoor equipment.

Docket Number, Name, Affiliation	Comments
77-8-627 (Continued)	4. Indicated that EPA's access to manufacturers' facilities should be restricted to those areas relevant to the specific investigation.
	5. Urged that the areas to be investigated by EPA be identified in writing prior to the specified time period.
	6. Recommended against specification of character style.
	7. Emphasized that the Noise Control Act of 1972 does not give EPA the authority to require a product recall even if a product does not comply with the standard.
-628 Miss B. L. Duncan	1. Stated that amplified record players, guitars and "rock" music create more noise than household appliances.
	2. Stated the city officials do nothing about this problem.
-629 Guenther Baumgart President Association of Home Appliance Manufacturers	1. Indicated that the noise labeling of home appliances is inappropriate and unnecessary, as shown by the data reported in the Title IV report.
	2. Suggested that the EPA use the Title IV report—"Report to the President and Congress on Noise" (Doc. No. 92-63, 92nd Congress, 2nd Session, Feb., 1972)—to assist in product selection.
	3. Doubted if Section 8 gave EPA the authority to require labeling on a product which might constitute a hazard to hearing only when considered "in the context of cumulative exposure"—a vague phase.
	4. Included Table 2-19 of the above-mentioned report, which divides home appliances into categories according to the effects of their noise levels and the average conditions of exposure.

Docket Number, Name, Affiliation	**Comments**
77-8-629 (Continued)	5. Indicated that home appliances are different than sources of community noise because they are operated at the discretion of family members and are products that must meet consumer acceptance. 6. Observed that only 3 percent of the complaints received by the Major Appliance Consumer Action Panel in 1976 concerned noise. 7. Maintained that noise labeling may detract from more important labels involving safety precautions and energy. 8. Emphasized the importance of a study of market place effects, since the labeling program could have a significant impact on certain manufacturers. These costs include the tax dollars spent on program administration. 9. Cautioned against the use of comparative acoustic rating information, because of problems with updating data and because there is the problem of different product capacities within the same product class. 10. AHAM suggested EPA publish a detailed document specifying what information was used in deciding upon products for labeling and describing the rationale behind the final decision. 11. Held that EPA has not shown that noise from household appliances adversely affects the public health or welfare–a necessary determination before labeling action is taken. 12. Suggested using the brand name reseller's name on the label (Sec. 211.1.4(d)). 13. Stressed the need for interagency coordination of labeling programs. (211.1.5).

Docket Number, Name, Affiliation	Comments
77-8-629 (Continued)	14. Suggested a longer period of notice before EPA could inspect factory facilities, because of likely disruptions (Sec. 211.1.9(b), (e)).
	15. Argued that only the finished product should be photographed and inspected by EPA to determine compliance (Sec. 211.1.9(c)(1)(iv)).
	16. Argued that the manufacturers should not be liable "for the expense of investigation" by EPA of test methods employed by the facility (Sec. 211.1.9(c)(2)).
	17. Expressed concern about EPA's authority to prescribe where a manufacturing plant is located (211.1.9(3)).
	18. Objected to the exemption of products used for market promotion and demonstration, unless provisions are developed which insure truth in advertising (Sec. 211.1 10-1(f)).
	19. Stated that the Administrator should be required to give the manufacturer sufficient advance notice of the decision to require that a product be submitted to EPA or that it be tested at the manufacturer's facility. (Sec. 211.1.11(a)(1), (2))
	20. Suggested EPA should give advance warning of products chosen for labeling and should utilize measurement methods already available. Sufficient leadtimes should be granted for manufacturer's compliance with the regulation.
-630 E. J. Halter Chairman Industrial Silencer Manufacturers Association (ISMA)	1. Described ISMA's efforts in developing industrial silencers test procedures.
	2. Enclosed a publicity release describing ISMA and a copy of a journal article on their reciprocating engine silencer test procedures.

Docket Number, Name, Affiliation	Comments
77-8-631 William L. Krentz Director, Public Affairs Owens-Corning Fiberglass Corporation	1. Owens Corning commented with respect to its glass fiber sound control materials that it has undertaken extensive testing of the sound abatement properties of these materials. 2. Owens Corning suggested that private sector laboratories be accredited by EPA to carry out needed testing under the program. 3. Cited its participation in a voluntary testing facility accreditation program offered by the Department of Commerce through the National Bureau of Standards. 4. Urged EPA to focus on noise-labeling of finished systems rather than individual materials. 5. Noted that a single noise descriptor is meaningless without having information on the mounting method and construction technique of the test also on the label. 6. Suggested close consultation by EPA with the National Bureau of Standards regarding the development of rating schemes and test methodologies. 7. Reiterated its desire for EPA to consider the total system including installation technique, in noise-labeling its products. 8. Endorsed EPA's citation of ANSI standards and commended ASTM as a source for measurement methodologies. 9. Noted the complexity of the available noise reduction descriptors, contended that the average purchaser could not judge the significance of ratings such as the noise reduction coefficient, the sound transmission class, or the noise isolation class.

Docket Number, Name, Affiliation	Comments
77-8-632 Mr. and Mrs. D. W. Pfeifer	1. Objected to motorcycle noise and increased volume in TV commercials.
-633 W. C. Painter, Manager Product Safety and Certification Rockwell International Power Tool Division	1. Expressed the opinion that product noise reduction could be accomplished only at the loss of other valued performance parameters, i.e., energy efficiency, cost, weight, productivity, international marketability, rendering the focus on noise counter-productive and wasteful.
	2. Considered the noise range deficient because of difficulties in policing and in taking account of new products.
	3. Expressed doubt about the legality of the proposed EPA entry for inspection of facilities and of the requirement for shipping products to a central test facility.
	4. Expressed opposition to the program as misdirected and unjustifiable in light of its likely effect on other characteristics of products.
-634 Caroline Jenclowski (?)	1. Expressed support for the program, desiring reliable information on the noise characteristics of products she buys.
-635 Miss Marjorie L. Coates	1. Expressed concern over the noise from electric table fans, window air conditioners, stove fans and forced air gas furnaces.
	2. Wanted information on the noise levels and other properties of portable non-window unit air conditioners.

Docket Number, Name, Affiliation	Comments
77-8-636 E. Linn	1. Expressed support for the program as an excellent idea long overdue, citing noisy vacuum cleaners and air conditioners.
-637 Anthony O. Cortese, Sc.D. Director, Division of Air and Hazardous Materials Commonwealth of Massachusetts	1. Expressed support for noise labeling because it would provide needed data for the state's noise regulatory program. It would form a basis for comparison, and it would provide an incentive for production of quieter equipment.
	2. Suggested the noise labeling of transformers, air compressors, cooling towers, mufflers, domestic and commercial air conditioners.
	3. Expressed the opinion that the states should retain the jurisdiction over regulation of noise-emitting equipment while the Federal government should handle labeling and emission standards.
-638 Mrs. Robert G. Rinehart	1. Discussed difficulties in shopping for a refrigerator on the basis of noise levels and duration of motor operation resulting in the purchase of a unit which ran 80 percent of the time.
	2. Suggested that a label indicating running time of a refrigerator would be more informative than one in decibels or kilowatts.
-639 R. H. Alexander	1. Suggested that EPA's efforts be directed at abatement of the amplified public noise of modern music instead of labeling appliances.
	2. Expressed opposition to the program, which will increase product costs.

Docket Number, Name, Affiliation		Comments
77-8-640 Joan L. Mills	1.	Called for noise abatement or labeling of motors, including those in dishwashers, clothes washers, dryers and inside and outside air conditioners.
-641 Michael G. Garland, Manager Technical Services Department The Celotex Corporation	1.	Celotex, a manufacturer of acoustic celing products, expressed opposition to EPA labeling of acoustic tile because: (a) the acoustic tile marketed today are in compliance with the 1972 Noice Control Act in providing noise rating information (NRC) as shown in attached labels. (b) Any new descriptor would be confusing in the light of accepted usage of the NRC and STC, and a single number descriptor would be misleading.
-642 Everett A. Plaster	1.	Expressed concern over noise from his refrigerator and dishwasher.
-643 W. G. Schwieder Ford Motor Company	1.	Included textof Washington Hearing statement and corrected transcript.
	2.	In supplementing previous comments, included its initial and reply briefs for *Ford Motor Company v. Environmental Protection Agency,* docket No. 76-1582, in reference to the inspection and monitoring provisions.
	3.	Suggested a revision to Sec. 211.1.10-1, to allow an automatic one-year exemption in the event the Administrator fails to respond within fifteen working days.
	4.	Suggested that Sec. 211.1.10-3, paragraph c be revised to eliminate automatic retroactive rescission for an export exemption breach.

Docket Number, Name, Affiliation	Comments
77-8-643 (Continued)	5. Suggested that Sec. 211.1.11 be revised to reasonably limit the Administrator's discretion to require manufacturers' to provide products for testing, in keeping with a compromise reached in the truck litigation; that the manufacturer be allowed to observe EPA testing, that paragraph b allow the manufacturer to contest an adverse EPA determination on its test facilities, and that a "cease" order be based only on a finding of necessity for protection of the public health and welfare.
	6. Indicated that Section 8 of the Noise Control Act applies only to new products, based on legal interpretation of the Act's wording and analysis of its legislative history.
-644 John M. Cowart	1. Commented on excessive noise produced by motorcycles, powerboats and furnace fans.
	2. Expressed support for noise abatement.
-645 Debro Saltzman	1. Ms. Saltzman, a teacher of the deaf, stated that the noise of household appliances is both annoying and damaging to the ear.
	2. She asked EPA to cite the negative effects of noise from vacuum cleaners, dishwashers, and blenders in the standards or regulations promulgated.
-646 Peggy Jenkin	1. Expressed interest in noise reduction in the home and commented on the loud noise emitted by a grinder/salad maker and a vacuum cleaner.

Docket Number, Name, Affiliation	Comments
77-8-647 Michael W. Blanck Manager, Acoustical Division Kodaras Acoustical Laboratories Division of Electrical Testing Laboratories, Inc.	1. While praising EPA's effort, ETL believes such a program is best undertaken in the private sector. Mr. Blanck referred to ARI's voluntary program as a model for EPA to follow.
	2. Asked: "Who will make the decision as to the acceptability of a laboratory and what criterion will be used in determining this?"
	3. Recommended National Voluntary Laboratory Accreditation Program (*Federal Register,* Vol. 41, pp. 8163-68, 2/25/76) and ASTM Standard E548 Recommended Practice for Generic Criteria as methods of evaluating testing agencies.
	4. Suggested use of consensus standards for testing purposes (i.e. ANSI and ASTM). Specific product regulations should reference standards but not cite them as federal standards, so that they can be kept current.
	5. Expressed concern about labeling a product whose acoustical performance is dependent upon its installation and can vary significantly, i.e., gypsum board.
-648 Fred Tabacchi President and Chief Operating Officer The Hoover Company North Canton, Ohio	1. The Hoover Company criticized EPA's publishing a list of appliances considered for labeling, when it has not yet been established that they emit noise capable of adversely affecting the public health and welfare.
	2. The Hoover Company felt that vacuum cleaners and clothes washers cannot be shown to adversely affect public health and welfare. In sum, they believe "the EPA is vastly exceeding its authority to require noise labeling on products that emit noise which is merely occasionally annoying."

Docket Number, Name, Affiliation	Comments
77-8-648 (Continued)	3. Criticized the higher costs resulting from noise labeling and the proliferation of labels in general.
	4. Mentioned Hoover and ASTM surveys which demonstrate that noise receives very little consideration by prospective purchasers of vacuum cleaners, who are more concerned with durability, weight, cleaning ability, etc.
-649 John L. Phillips	1. Expressed support for the labeling program, which he regards as a weak, but politically feasible, alternative to mandatory emission limits.
-650 Madeline Bolbol	1. Complained about noise from kitchen range fan.
-651 George P. Lamb, Jr. General Counsel Vacuum Cleaner Manufacturers Association (VCMA)	1. VCMA expressed opposition to labeling vacuum cleaners.
	2. VCMA felt it is extremely difficult to devise a rational formula for selection of products for labeling. Mr. Lamb expressed concern that the noise made by vacuum cleaners, though extremely short in duration, might be viewed in isolation and deemed a justification for labeling in itself.
	3. VCMA does not feel that improper labeling of noise characteristics represents the kind of danger justifying inspections. The Association believes that the inspection and enforcement provisions–taken as a whole–are much "too harsh."
	4. Mr. Lamb indicated that the determination of whether or not a product "adversely affects the public health or welfare" is a decision which must be made through an orderly rulemaking proceeding. (Reference is made to the Administrative Procedure Act, 42 U.S.C. Section 4905(c)(2) and 4907(b).) He asserted that the negative publicity given to vacuum cleaners in the public hearings could prejudice the outcome of these proceedings.

Docket Number, Name, Affiliation	Comments
77-8-652 Ralph W. Van Demark Executive Director Automotive Exhaust Systems Manufacturers Committee	1. Speaking on behalf of an independent trade association of automotive exhaust system manufacturers, he commented on some of the implications of the proposed general provisions for replacement exhaust systems. 2. Indicated that it was not feasible to develop a single number or rating which could guide the consumer in a meaningful manner, since there are many complex variables relating to replacement exhaust systems. 3. The major problem seemed to be that replacement exhaust systems are designed to fit a number of makes and models, so that nationwide distribution is possible. The process of compromising physical dimensions is termed "consolidation." He claimed that a single noise rating was impossible since the noise level resulting from a replacement system would vary depending on which make and model vehicle it was installed. A single number indicative of the noise reduction capability of the muffler would not surmount the problem of confusing the consumer, because a muffler would still be noisier on one vehicle than on another due to make and model differences. 4. Finally, he maintained that muffler labeling could not proceed until a test procedure for determining a noise reduction rating was developed and agreed upon. 5. Expressed support, however, for regulation of excessive noise. 6. Submitted copy of AESMC's *Recommended Sound Level Standard and Measurement Procedure for Vehicle Exhaust Noise.*

Docket Number, Name, Affiliation	Comments
77-8-653 Ms. Patricia H. Robinson	1. Expressed support for labeling program and general noise abatement.
-654 Mrs. Earl B. Hampton	1. Expressed support for labeling program, or any other means of identifying, measuring, or "quieting" various appliances.
	2. Complained about a noisy refrigerator.
-655 Theodore J. Fister	1. Expressed opposition to labeling program.
-656 Lucy D. Strickland	1. Commented on the excessive noise emitted by a refrigerator.
-657 Gene Boyce	1. Complained about noise produced by a refrigerator.
-658 Gordon Tapper	1. Listed noisy products: heavy trucks, tires, motorcycles, dune buggies, lawnmowers, other garden equipment, refrigerators, washing machines, automobiles, and buses.
-659 Mrs. Gerald N. Plotkin	1. Expressed support for the labeling program, which will permit comparison shopping.
	2. Commented on excessive noise produced by a vacuum cleaner, electric drills, and blenders.
	3. Stated that noise was the first factor he considered when shopping for a vacuum cleaner.

Docket Number, Name, Affiliation		Comments
77-8-660 Richard H. Lincoln Manager, Environmental Engineering Outboard Marine Corporation	1.	Expressed opposition to labeling program, because consumers will not use the information on the label but will continue to purchase items on the basis of brand names.
	2.	Criticized promulgation of general labeling provisions before product-specific regulations. When the need to label has been established, then regulations should be developed which deal only with that product–and which are not preceded by more general provisions.
	3.	If EPA decides to label products, even though there is no need to do so, only the end product should be labeled and not the components.
	4.	Emphasized the importance of an understandable rating scheme but criticized dBA, L_{eq}, and a "1 to 5" scale (which would not encourage noise reduction for products rated with a "1").
	5.	Felt that EPA was not giving enough attention to costs, which he calculated to be about $11,000 per year, and that his marketing research demonstrated a lack of public concern about noise.
-661 Steven K. Allsbruck	1.	Expressed support for labeling program but hoped it would be more accurate and understandable than EPA's gas mileage ratings.
-662 Vico E. Henriques Computer and Business Equipment Manufacturers Association	1.	Recommended the A-weighted sound power level, re 1 picowatt, of the product as the best acoustic rating descriptor.
	2.	Emphasized the importance of using and/or developing standardized test procedures.
	3.	Opposed comparative acoustic ratings because in some cases products within a class do not have identical functional characteristics and because of the problem of updating the range data.

Docket Number, Name, Affiliation	Comments
77-8-662 (Continued)	4. Suggested the need for other information on the label such as the test procedures used and the installation conditions conducive to less noise. Since the label will not contain much additional information, he suggested making this data part of the public record and having a reference to it on the label.
-663 Donna McCord Dickman, Ph.D. Program Manager Areawide Environmental Noise Program Health and Environmental Protection Metropolitan Washington Council of Governments	1. In response to a request for information from EPA officials at the Washington Hearing, she reported that the Noise Technical Committee recommended the following products for labeling: small appliances used around the face, powered gardening tools, home workshop tools, and kitchen appliances.
	2. Recommended a published list of product noise ratings as a means of effectively publicizing the program. The lists would be developed for each product labeled and would also contain the names of manufacturers.
-664 Mrs. R. H. Pfluger	1. Expressed support for the labeling program.
	2. Suggested requiring demonstrations of products in the store, so that consumers can hear the appliances in operation.
	3. Complained about the noise produced by a dishwasher.
-665 Arthur L. Herold and James L. Wilson Law Offices: Webster and Chamberlain Counsel to the Power Tool Institute	Duplicate of 77-8-565

Docket Number, Name, Affiliation	Comments
77-8-666 Dr. G. L. Cluff Director Tri-Utility Hearing Conservation Program *(Insert into 77-5)*	1. Expressed support for labeling hearing protectors. 2. Suggested that the "R" value associated with a particular hearing protector be used as the "single number" attenuation rating for that product. 3. Based upon tests he has conducted with hearing protectors (data attached), he recommended that a negative per octave slope of about -6 to -12 dB be adopted as the standard slope for the determination of the "R" value. The slope of the noise spectra significantly affects the "R" value, and the above slope was chosen because it generally represents the worst performance of a personal hearing protector.
-667 Dal D. Nesbitt Mechanical Engineer	1. Expressed strong support for the program, wishing it were stronger and had come sooner. 2. Noted difficulty as a mechanical engineer trying to design quieter products and being ordered by management not to invest funds on noise. 3. Noted problem he faced as a consumer, despite his experience in the field, in comparative shopping for quiet products.
-668 Bernard Balmer	1. Expressed support for the program within "reason." 2. Suggested labeling appliances and "noisy machines," including those used in industry.
-669 Mrs. E. Dale Petite	1. Expressed support for appliance labeling or noise control, citing difficulties in purchasing a quiet refrigerator.

Docket Number, Name, Affiliation	Comments
77-8-670 Eileene M. Young	1. Expressed concern over noise from a refrigerator, which runs too long with an irritating "hum."
-671 David A. Kloepper Service Engineering Manager HILTI Fastening Systems, Inc.	1. HILTI recommended that the "comparative acoustic rating" be deleted from the label because: (a) categories of products cannot be suitably designated; (b) it will cause some consumers to ignore more important factors; (c) updating will pose difficulties for EPA; (d) the individual noise rating will suffice for consumer choice.
	2. Suggested use of the Noise Power Emission Level in bels under the ANSI Standard S1.23-1976 for the descriptor.
	3. Recommended that either manufacturer or distributor be identified on the label to ensure fairness.
	4. Expressed concern over usurpation of power by EPA in the enforcement provisions, including on-site inspection of facilities and production and testing requirements.
	5. Expressed the need for clarifying the circumstances for granting a testing exemption under 211.1.10-1 and suggested an automatic exemption for products so qualified.
	6. Objected to the concept of Section 8 as an improper function of a "government of free men" and because noise is of little importance to buyers.
	7. Formally requested EPA to (a) modify the Proposed Rules as suggested and (b) submit the objections to the concept of the Noise Control Act to Congress.

Docket Number, Name, Affiliation	Comments
77-8-672 G. L. Terry Vice President Public Responsibility and Consumer Affairs Chrysler Corporation	1. Expressed the opinion that the Proposed Rules are a mockery of the intentions of Congress through a broad expansion of the powers to be exercised in most areas.
	2. Strongly objected to the program as "maximum Federal intrusion" and an over-broad interpretation of the Section 8 mandate.
	3. Expressed the opinion that labeling could not apply to products designated under Sections 5 and 6, since these have been rendered safe by the mandatory standards.
	4. Expressed the opinion that "prospective user" should be used interchangeably with "ultimate purchaser," limiting the lifetime of the noise label to the time-of-sale.
	5. Stated that EPA lacked the authority to require the comparative noise information, contending that it would be misleading, outdated and inaccurate.
	6. Indicated that EPA lacked the authority for the proposed inspection, entry and enforcement provisions, citing the truck noise litigation arguments, and wanted minimal EPA involvement under Section 8.
-673 Marcus D. Maatalia	1. Expressed concern over the excessively high noise level of two products, an electric drill and a dishwasher.

Docket Number, Name, Affiliation	Comments
77-8-674 Mrs. Pauline Wanker	1. Expressed concern over noisy kitchen appliances, citing a dishwasher as especially noisy and disruptive of conversation and thought.
-675 Frank J. [illegible]	1. Expressed concern over a noisy dishwasher which interferes with conversation.
-676 Allan M. and Joyce G. Krell	1. Urged EPA to do anything possible to reduce the noise levels of mechanical devices.
-677 William G. Haley	1. Expressed support for mandatory noise labeling of household appliances, but objected to Federal mandatory noise standards. 2. Noted that labeling could lead to consumer comparison and reduced noise levels through competition, endorsing dish- and clothes-washers for the program. 3. Pointed out the complexity of noise ratings, suggesting use of "perceived noise decibels" rather than just "decibel" units.
-678 Alice G. Heinz	1. Cited a noisy no-frost refrigerator and a noisy tank vacuum cleaner, both of which are disturbing.
-679 Illegible	1. Expressed support for the program as allowing consumer knowledge. 2. Expressed concern over motorcycle noise and called for its abatement.

Docket Number, Name, Affiliation	Comments
77-8-680 C. Rodger Blyth Technical Assistant Research and Development The Maytag Company	1. Mr. Blyth (who attended the Cedar Rapids hearing) noted the noise reduction in the development of Maytag dishwashers over time.
	2. Explained Maytags efforts at lowering dishwasher noise, but noted the company will not participate in a voluntary labeling program run by AHAM.
	3. Expressed the opinion that noise labels will not improve consumer satisfaction since it will provide a distorted picture of performance characteristics.
	4. Noted that dishwasher noise does not consitute a health hazard but rather an annoyance.
	5. Expressed Maytag's opposition to noise-labeling of dishwasher–which is viewed as misleading to consumers concerned with overall performance.
-681 Unsigned	1. Expressed opposition to the program as raising business costs, and suggested EPA turn to other matters.
-682 Mrs. Joseph J. Doyle	1. Expressed concern over the noise from a grill range fan.
-683 Mrs. Joan Mundel	1. Expressed support for the program as a first step in reducing noise levels, and wanted to know the resolution of the question of noise labeling.
-684 Mrs. Marlin Knight	1. Expressed support for the program, citing a refrigerator and a dishwasher as particularly noisy.

Docket Number, Name, Affiliation	Comments
77-8-685 Mr. and Mrs. Raymond Peeters, Mr. Christopher Peeters, Miss Pamela Peeters, and Mrs. Andrea Peeters Hunt	1. Expressed support for the program, citing noisy refrigerators and freezers and the possibility of hearing impairment.
-686 Helen (Mrs. Thomas) Moon	1. Expressed concern over the noise from a refrigerator.
-687L Mrs. B. G. Perrin	1. Complained about noise from refrigerators.
-688L Mrs. Geovanna Gesalti	1. Complained about noise from his refrigerator, dishwasher, garbage disposal and heat pump, as well as motorcycles.
	2. Expressed support for a noise abatement program.
	3. Suggested manufacturers be required to advertise decibel levels emitted during product operation.
-689L Charles M. Fisher	1. Complained about noise from his refrigerator, dishwasher, garbage disposal and heat pump, as well as motorcycles.
	2. Expressed support for a noise abatement program.
	3. Suggested manufacturers be required to advertise decibel levels emitted during product operation.
-690L Mrs. James C. Warren	1. Expressed support for noise labeling program.
-691L Eva Shun Kwiler	1. Complained that kitchen appliances are too loud.
-692L John S. Autry Vice President and Director of Public Affairs Johns-Manville Corporation	1. Expressed approval for the intent of the EPA program, but suggested that EPA utilize the expertise provided by corporations such as theirs and by the National Bureau of Standards.

Docket Number, Name, Affiliation	Comments
77-8-692L (Continued)	2. Recommended that industry laboratory facilities be used for testing purposes, that finished systems rather than individual components be considered in determining labeling requirements, and that a rating system utilizing more than one indicator be used. 3. Suggested that EPA work closely with the industry in designing enforcement rules.
-693L Robert Kauffman	1. Expressed support for noise labeling program. 2. Complained about a rotary-action airless paint gun.
-694L William E. Leuchtenburg Professor of History Columbia University	1. Complained about noise created by leaf blowers and leaf machines.
-695L Mrs. Edward L. Weimer	1. Complained about noise and television interference from her refrigerator.
-696L R. Wood	1. Complained of noise created by freezer.
-697L George M. Leanan, M.D.	1. Expressed opposition to the labeling program, specifically as applied to electrical appliances, because of excessive costs.
-698L June Wooder	1. Complained about noise from electric fans and air conditioners.
-699L Robert Hume	1. Complained about noise made by his freezer which can only be reduced at considerable expense. 2. Expressed support for regulation of noisy appliances.

Docket Number, Name, Affiliation	Comments
77-8-700L Benedict G. Breitung	1. Complained of noise created by gas engine lawn mowers.
-701L Ira M. Edwards Biology Storekeeper Southern Oregon College	1. Complained about noise and inefficiency of an incubator.
-702L Phyllis I. Lundquist	1. Complained of noise made by her refrigerator.
-703L Alinda Heath	1. Complained about noise made by her dishwasher and refrigerator
	2. Supported the noise labeling program.
-704L Marcella J. Nickerson	1. Complained of noise made by her refrigerator, dishwasher, washing machine, dryer as well as other small appliances.
	2. Requested that some action be taken to reduce noise levels of appliances.
-705L Ross Buhrdorf	1. Complained of noise created by lawnmowers, dishwashers and air conditioners.
-706L Robert Schneider	1. Expressed support for the noise labeling program.
	2. Recommended that labels compare noise levels with those of commonly used "gadgets" as well as reporting decibel levels.

Docket Number, Name, Affiliation	Comments
77-8-707L John P. Reardon Director of Government Affairs Air Conditioning and Refrigeration Institute	1. Submitted a Supplementary Statement on proposed noise labeling–general provisions. 2. Expressed the opinion of ARI that with due consideration EPA need not identify unitary air-conditioners under either Section 5 or 8 of the noise control act. 3. ARI believed that it should be considered as a pioneer in the development of industry certification programs, obviating the need for EPA involvement. 4. The ARI Sound Certification Program rating procedure is based upon an effective auditing by ARI and certification by manufacturers including a technically sound numbering system determined through a methodology acceptable to EPA. 5. The ARI Sound Rating Number (SRN) descriptor is based upon a numerical single number rating classification scheme which serves as an accurate means to differentiate the noise emitted from similar pieces of equipment. 6. The Sound Committee was concerned with subjective noise levels so it developed a means of including a penalty for equipment that may have a pure tone at one or more one-third octave band levels. 7. In ARI's opinion, the air-conditioning and refrigeration industry has an effective viable certification program that could be readily approved by EPA. 8. Stated that, with additional public information by EPA and the industry, the current certification program voluntarily operated by the industry could become a viable tool for use by the individual consumer in comparative shopping and by noise enforcement officers in states and other municipalities (as has been done in Cerritos, California) that have noise ordinances.

Docket Number, Name, Affiliation	Comments
77-8-707L (Continued)	9. Strongly suggested that the EPA give thorough consideration to using a variety of noise descriptors that may already be in effect for various products. 10. Expressed the opinion of ARI that a limited variety of descriptors could be meaningful to the consumer because the consumer is sufficiently educated in his own area of concern to know the differences in the various descriptors.
-708L David Owens	1. Suggested checking the frequency as well as the dB level on the Sunbeam Challenger vacuum cleaner.
-709L Sears, Roebuck and Co.	1. Sears, Roebuck and Co. expressed the opinion that the noise labeling program should be used to provide the consumer with noise level data only on those products which could be detrimental to his or her health or welfare. 2. Felt that "labeling appliances which do not produce noise levels which are detrimental would add undue burden to the manufacturer, inevitably increase the cost of the product to the consumer, create a negative image of the product to the consumer and yet provide no additional valuable information." 3. Stated its belief that the "intent of Section 8 of the Noise Control Act of 1972 [should] be complied with by objectively stating the product's noise level or its effectiveness in reducing noise as its 'sound rating' or 'sound reduction rating,' " because of the negative bias in the term "noise." 4. Expressed concern over possible consumer confusion about the logarithmic dBA scale. 5. Recommended that a method for comparative acoustical data or information which is fair to all manufacturers be established.

Docket Number, Name, Affiliation	Comments
77-8-709L (Continued)	6. Suggested that EPA should use existing standards for testing and rating appliances presently used by the industry affected.
	7. Believed that the overall effects of this program will be to increase the cost of the product due to the cost of the testing programs and the labeling requirements. This does not even include additional cost resulting from governmental funds for noise reduction programs.
	8. Expressed the opinion that the label statement, "Federal law prohibits removal of this label prior to purchase," is unwarranted and may lead the consumer into believing that other labels on the product, such as the warning or warranty labels, etc., may be removed at will since there is not a prohibitionary statement on them.
-710L Robert A. Heath Director of Government and Consumer Affairs Walker Manufacturing	1. The Walker Manufacturing Company expressed agreement with the Agency's basic noise program.
	2. Asserted that automotive parts are in a different category than complete assemblies, such as mixers or vacuum cleaners.
	3. Encouraged a program that would operate under statute limitations like the federal interstate truck law.
	4. For convenience and cost effectiveness to manufacturers and consumers, muffler designs on smaller vehicles are consolidated which means that one muffler can be used in many ways giving different acoustical results.
	5. Noted that consumers do not usually buy a brand of an automotive part but rely on a repair shop to select suitable products, making it more practical to insist that these parts meet legal levels.

Docket Number, Name, Affiliation		Comments
77-8-710L (Continued)	6.	The "running changes" made in parts during a model year also present a problem in determining which part, often with varying frequency ranges, should be considered the best or standard.
	7.	To date, Walker has not seen nor do they know of a practical bench test procedure.
	8.	Stated that: "In order to enact a practical consumer product noise labeling regulation (1) an informed population must exist which can make practical decisions from either dB or relative noise levels, (2) the public would have to be advised of a range and able to compare levels of all competitive products, (3) for an auto parts manufacturer to know the noise level of his competition, all manufacturers would have to test *all* products—on all cars and installations—a formidable task, (4) competition among manufacturers to reduce noise levels must be allowed to develop."
	9.	Concluded that: "A regulation presenting a noise level on the label of each automotive part for optional consumer choice, purchase and installation will have less effect in the automotive world than regulations to a statute level."
-711L Mrs. Brewster R. Heminway	1.	Complained about "tree grinding equipment."
-712L Mrs. L. G. Glover, Jr.	1.	Complained of noise caused by her vacuum, washer, and old-time cutting saws.
-713L Wayne Marcus Technical Analyst Motorcycle Industry Council, Inc.	1.	Recommended that the provision requiring "the range in noise ratings of other products of [the same] type" be deleted, because such notice exceeds authority in 1972 Act.

Docket Number, Name, Affiliation	Comments
77-8-713L (Continued)	2. Regarding Section 211.1.9 (a) (Inspection and Monitoring) the word "properly" is undefined and superfluous; therefore, MIC urged its deletion from the provision. 3. Suggested that "oral" be deleted from Section 211.1.9 (b) in relation to notification, because it is subject to misinterpretation. 4. A "Standards" requirement for the maintenance of records, not in the Act's requirement, is beyond the scope of the authority granted by the Act. Therefore, the wording of this provision (211.1.9 (c)(1)) should be changed, substituting "and" for "or." 5. In Section 211.1.9(e) exception is again taken to oral notification and it is recommended that entry without 24-hour notice should be avoided except in cases of blatant circumvention of the regulation. 6. MIC felt that Section 211.1.10-1 (Testing Exemption) lacked clarity and should be reworded or that an explanation be developed.
714L Harold W. Wolf	1. Complained of noise created by forced air circulation systems.
-715L Eliot Greb	1. Suggested that EPA stay out of the noise abatement area completely, leaving it to the consumer to determine which products are not acceptable regarding noise.
-716L Mrs. Ed Reynolds, Sr.	1. Complained of noise made by her freezer and refrigerator.
-717L W. A. Hyland	1. Suggested that noise level be numbered so that the higher the noise level, the noisier the product. The numbering system could have some direct correlation to decibels.

Docket Number, Name, Affiliation	Comments
77-8-718L Mrs. T. J. Brooks	1. Complained of noise made by her refrigerator.
-719L Howard Schwartz	1. Complained of noise made by chain saws, motorcycles, hairdryers, electric razors and vacuum cleaners.
	2. Expressed support for Agency action directed at reducing product noise and labeling products for noise emissions.
-720L Rubin Helmin	1. In a personal visit requested information on chain saw project.
-721L Karla L. Yeager	1. Expressed support for the program, citing health concerns and suggesting standards for high decibel levels.
-722L Lucille (Mrs. Herman) Haarer	1. Expressed concern over a noisy refrigerator and noted the purported availability of a $50 kit to abate the noise.
	2. Expressed cautious support for the program.
-723L Suzanne Badenhop Department of Consumer Sciences and Retailing	1. Reported findings of a survey of 150 women regarding importance of consumer information on labels for vacuum cleaners.
	2. Noted that only 24 percent of the sample considered noise levels as important information for a label, ranking it 10th of 11 factors, while 30.7 percent stated noise level information was not important, ranking it second out of 11 in least importance.
	3. Expressed the opinion that consumers accept noise as a "given" in vacuum cleaners, considering cleaning performance of much greater importance.

Docket Number, Name, Affiliation	Comments
77-8-724L Julia A. Morse	1. Requested any available information on noise labeling.
725L Mrs. Charles W. Disbrow, Jr.	1. Expressed opposition to the program as "bureaucratic nonsense."
-726L Janice F. Olson	1. Urged that the labels should be easily understood and that an educational program on harmful noise effects be adopted as well.
-727L Delores Crozier French Laboratory	1. Expressed concern that, if inadequately policed, the program could lead to corruption to the advantage of large over small businesses. 2. Noted that improper testing associated with the "government seal of approval" could have damaging effects on a small business.
-728L Allen Nelson	1. Expressed interest in the issue of home appliance noise. 2. Desired EPA response to the suggestion that garbage disposals have motor casings more resistant to noise.
-729L John P. Reardon Director of Governmental Affairs Air-Conditioning and Refrigeration Institute (ARI)	1. Noted that EPA need not identify unitary air conditioners under either Section 5 or 8. 2. Referring to an article by Mr. Elkins in the appliance manufacturer magazines, emphasized ARI's voluntary certification program using the SRN and a pure tone correction technique as a model industry voluntary program. 3. Suggested that a number of descriptors might be used in different product classes, such as the SRN for unitary air conditioners, STC for construction materials, NRC for sound absorbing construction materials and dB(A) sound pressure at one meter for home consumer products.

Docket Number, Name, Affiliation	Comments
77-8-729 (Continued)	4. Suggested that ARI's voluntary program could be an effective consumer shopping and local noise enforcement tool with public education by EPA.
	5. Suggested that EPA work with industry to provide guidance for voluntary noise programs, combined with public education by EPA.
-730L Caroline Pardoe	1. Expressed support for the program as providing the opportunity to buy the least noisy appliance.
-731L Daniel Queen Daniel Queen Associates	1. Requested the opportunity to clarify his oral testimony.
	2. Restated earlier suggestion about maintaining reliance on logarithmic designators (decibels and bels), and reiterated his feeling that if given time, consumers will become accustomed to relating the designator to the stimulus.
	3. Submitted a corrected version of his testimony given before the noise labeling hearings, September 16, 1977.
-732L Sherrie Sink	1. Complained of noise made by vacuum cleaner.
-733L Mrs. Betty Westlund	1. Complained about noise made by her vacuum cleaner.
	2. Expressed support for noise labeling program.
-734L Patricia Moran	1. Complained about excessive noise from stereos.
	2. Expressed support for regulations which would reduce the noise made by stereos.

Docket Number, Name, Affiliation	Comments
77-8-735L Margaret Monji	1. Complained about noise made by a wall type gas heater.
-736L Elizabeth Bottomly	1. Complained about noise made by leaf blowers.
-737L Gordon L. Cluff, Ph.D. Director, Tri-Utility Hearing Conservation Program	1. Submitted report to substantiate recommendation that a single number rating system for personal hearing protectors be adopted.
-738L James W. Klimes Product Safety Department R. E. Anderson Law Department Deere and Company	1. Submitted responses to questions raised at the noise labeling hearing, September 20, 1977, as well as additions to testimony given at that time. 2. Expressed concern that the noise labeling General Provisions Preamble may be written in such a manner that it could later be used to direct broader application of labeling requirements beyond those cases where products are capable of adversely affecting public health and welfare. 3. Expected that EPA would find it difficult to use "public attitudes" as one of the "additional" criteria listed on 42 FR 31723 (Column 1), since public attitudes are constantly changing. 4. Expressed disbelief that public attitudes without adequate factual support could act as the primary stimulus for an EPA regulatory (labeling) action. 5. Expressed concern about the products listed as "likely to be labeled" in the background document for the General Provisions proposal. It reflects such a broad interpretation of EPA's authority that the scope of labeling requirements could be carried to rather frivolous and costly ends.

Docket Number, Name, Affiliation	Comments
77-8-738L (Continued)	6. Suggested that EPA redraft the General Provisions preamble to more clearly indicate that the supplementary or "additional" product selection criteria are intended to narrow the range of products potentially subject to labeling regulations. 7. EPA should develop well defined, objective product selection criteria which can be stated quantitatively. 8. Commented on the inability to identify classes of products for which noise labeling would be appropriate due to the lack of a definition for "adverse affect capability." 9. Expressed the feeling that it was the intent of the language of Section 8 that notice be given to the prospective user and thus the prospective user would be the principle beneficiary of labeling. 10. The opinion was expressed that most products are purchased by the ultimate user, thus even though the intent of the statute is to give notice to prospective users, EPA can proceed with a labeling program which impacts more directly on the purchaser without violation of Section 8. 11. Understood that if a product has been identified as a major source of noise under Section 5, regulations can be promulgated under Section 6 only if the Administrator feels such regulations are feasible. 12. Expressed the feeling that determinations of feasibility should be based on cost or marketing factors as well as technology. 13. Felt that even if a noise emission standard was found not to be feasible, EPA could require labeling under Section 8.

Docket Number, Name, Affiliation	Comments
77-8-738L (Continued)	14. Stated: "Beginning in 1975, John Deere has included as part of the Canadian Motor Vehicle Safety Standards compliance for snowmobiles, a statement as to a "not-to-exceed" noise level. (Illustrations were attached.) 15. Pointed out that John Deere agricultural tractor advertising brochures included data on operator ear noise levels of Sound Gard body equipped tractors. 16. Expressed the feeling that "brochure labeling" may have more value for the potential customer because the brochure information can be taken with the customer allowing him to make meaningful, accurate comparisons. 17. Unless required, Deere and Co. would likely not modify its practice of labeling snowmobiles upper dBA level rather than actual noise level for the following reasons: (1) because of strict regulation there is little difference in measured dBA levels of snowmobiles and (2) because of the experience of manufacturers who attempted to market "quiet snowmobiles" and found that consumers appear unwilling to accept the performance effects of noise reduction.
-739L Richard Gimer	1. Expressed a desire to testify at the Washington, D.C. hearings on the general provisions of the labeling program.
-740L Arnold W. Rodin Home Ventilating Institute	1. Commented that "The HVI standards program for rating and labeling its members' products' sound emission has a well established standing among consumers, the trade and building standards agencies." 2. Noted that, "HVI has required since 1971 that all household range hoods and indoor exhaust fans in its certification program be labeled with both air delivery and sound ratings, as determined in independent laboratory testing at Texas A&M University under HVI test procedures."

Docket Number, Name, Affiliation	Comments
77-8-740L (Continued)	3. Pointed out that, "The U. S. Department of Housing and Urban Development in its Minimum Property Standards requires that all kitchen and bathroom ventilators carry sound as well as air ratings as tested under HVI procedures. The International Conference of Building Officials recognizes HVI as a Quality Control Agency for certified ratings of home ventilators for sound and air."
	4. HVI labels state sound ratings in sones, which follow a linear scale rather than a logarithmic scale as do decibels.
	5. Stated that: "Consumers, builders, contractors, dealers and salesmen have found HVI sones ratings useful in the selection and installation of literally millions of ventilators."
	6. Expressed the opinion that the HVI standards meet the essence of EPA's four objectives for the noise labeling program in the *Federal Register.*
	7. Pointed out "that the HVI sound testing procedure simulates use-environment, which your notice says will be considered where appropriate though not a primary objective."
	8. Expressed HVI's opposition to a dBA rating for products because logarithms are difficult for consumers, contractors, and sellers to handle in making comparisons.
	9. Urged EPA to adopt the sone as the common sound measurement for all labeling standards because of these merits: "(1) Simplicity in understanding and use (linear scale, low numbers, relevance to actual experience). (2) Accuracy and appropriateness of uniform laboratory testing. (3) Proven workability. (4) Wide familiarity."

Docket Number, Name, Affiliation	Comments
77-8-740L (Continued)	10. Expressed the opinion that minimal Federal involvement would be best for home ventilators by letting the HVI program continue to operate on its own.
	11. Took issue with the assumption that home ventilators pose any problems of health or welfare to justify inclusion under EPA regulations.
	12. Expressed the opinion " . . . that the consumer or other purchaser needs no new information or new protection than presently provided [since] the sound of range hoods and exhaust fans is stated so that the desired degree of quietness may be selected; sound ratings come under specified limits set for HVI certification and compliance to HUD standards; and existing sound levels pose no health or welfare threat to occupants or neighbors."
	13. Offered its cooperation in developing the EPA program, particularly in directions compatible with the HVI program.
	14. Suggested that "sound labeling" is a more accurate and appropriate general term than "noise labeling" since "noise" has subjective negative connotations, whereas the word "sound" is objective.
-741L Charles Wittyer The Marley Organization, Inc.	1. Suggested that advance planning and involvement prior to issuance of regulations was an advisable approach for affected parties.
	2. Requested noise labeling program information.
-742L Douglas A. Frazer, President International Union, UAW	1. Observed that UAW receives more complaints about noise than any other single occupational hazard. Therefore, UAW takes great interest in EPA's intent to regulate noise at the time a product is being manufactured.

Docket Number, Name, Affiliation	Comments
77-8-742L (Continued)	2. Expressed approval of a noise regulation program and strong support for EPA's proposal to require labeling of noisy products. 3. Expressed the hope that the program's major focus would be on industrial noise sources, with regulation at the point of manufacture a more effective technique than workplace noise level standards.
77-8-743L Frank S. Fitzgerald Executive Vice President Noise Control Products and Materials Association	1. Commended EPA "for its efforts to raise public awareness and understanding of noise reducing properties of products and materials at the marketplace." 2. Stated that inadequate technical data will however only confuse the purchaser and frustrate the program's objectives. 3. Recommended that laboratories conducting tests pursuant to the regulations be accredited by the American Association for Laboratory Accreditation (AALA) and commented on the Commerce Department's national voluntary laboratory accreditation program. 4. Stated that the establishment of public testing facilities would be "a duplication of that (above) effort and a needless expenditure." 5. Believed the regulations for product selection should focus on the labeling of finished systems and not parts of those systems. 6. Stated that "a single uniform rating system for all products will not provide the consumer with meaningful information."

77-8-743L (Continued)

7. Requested that in developing rating schemes and test methodologies, EPA consult the Noise Control Products and Materials Association, American Association for Laboratory Accreditation, American Society for Testing and Materials, American National Standards Institute, Society of Automotive Engineers, American Acoustical Society, Institute of Noise Control Engineers, and the National Bureau of Standards.
8. Noted the need to consider sound reducing parameters for the whole system rather than individual parts and to present some parameters as "a function of frequency, not by a single number."
9. Stressed the problems in communicating meaningful information to the consumer through the use of a simple number or descriptor.
10. Asserted that EPA should consider a technique of rating only for end use products and systems.
11. Expressed hope that the Agency would consider current trade practices emphasizing a systems approach in marketing and the availability of testing facilities in their formulation of a Final Rule.

-744L
William V. Skidmore
Assistant General Counsel for
Legislation
Department of Commerce

1. Recommended changes in the proposed regulations.
2. Recommended that EPA discuss the Agency's intention with respect to timing of the effective dates of product-specific regulations in the preamble of the Final Rule for the General Provisions, so that manufacturers have some idea of the minimum time allowed for compliance.

3. Recommended that when EPA develops proposed regulations for specifying rating procedures and ranges pursuant to Section 211.1.4(b) and (c), it considers the approach employed by the Department of Commerce in implementing its voluntary Energy Labeling Program.

4. The Commerce Department approach provided for submission to the Department of measurement data developed by manufacturers or generated by independent test laboratories or national certification programs. Then proposed ranges were published in the *Federal Register* for comment; comments were then considered and final ranges were established and published in the *Federal Register*.

5. Submitted the following documents:
    1. 15 CFR Part 9 (38 FR 29574, October 26, 1973) Procedures for a Voluntary Labeling Program for Household Appliances and Equipment to Effect Energy Conservation (Tab A);

    2. 40 FR 32415 (August 1, 1975) Voluntary Energy Conservation: Testing and Labeling; Specification No. 2075, for Refrigerators (40 FR 32415 *et seq.*); Specification No. 3-75, for Combination Refrigerator-Freezers (40 FR 43427 *et seq.*); Specification No. 4075, for Freezers (40 FR 32440 *et seq.*) (Tab B)

    3. 40 FR 37063 Voluntary Labeling Program (proposed ranges) (Tab C); and

    4. 40 FR 58673 Voluntary Energy Conservation: Testing and Labeling (final ranges) (Tab D).

6. Recommended "that EPA acknowledge its responsibility in the general provisions for compiling rating figures, establishing the limits of the range, and duly specifying the range in published regulations pursuant to Section 211.1.4(c)."

7. Expressed the opinion that "This responsibility would include periodic updating of the range as the extreme high and low ratings change because of product modification, model additions and deletions and the like."

-745
Frank E. Wilcher, Jr.
Executive Director
Industrial Safety Equipment Association
(From 77-5-038)

1. Maintained that the amount of information proposed for the label is excessive and that EPA should design a label that would not require redesign and enlargement of the product package.

2. Gave examples of redundant label information, such as company name, location, and product model numbers.

3. Felt that contrast is unnecessary if the label is legible.

4. Quoted Section 10 of the Administrative Procedures Act, 5 U.S.C. S706(2) and suggested that the proposed regulations were legally, as well as technically, unsound.

5. Suggested that regulations concerning specification of label content, EPA's inspection authority, and recordkeeping requirements of manufacturers exceed the authority conferred on EPA by Congress.

6. Pointed out that Section 8 of the Noise Control Act of 1972, 42 U.S.C. Sec. 4907(b), requires only a label giving notice of the hearing protector's effectiveness in reducing noise and not items (d)-(h) of 211.1.4.

7. Stated that there is no statutory basis for the requirements that the label contain information beyond the noise-reducing effectiveness notice such as the EPA logo and especially the removal prohibition statement noting that Congress usually expressly specifies such requirements.

8. Suggested that the proposed enforcement provisions magnify the manufacturers' requirements as stated in Section 13 of the Noise Control Act.

77-8-745 (Continued)

9. Cited specifics in the proposed rulemaking which exceed the requirement of Section 13 by requiring manufacturers to admit EPA inspection officials to their private facilities for inspection and monitoring activities.

10. Pointed out that the proposed regulations may be unconstitutionally vague, noting that the grounds for a cessation order are ill-defined, particularly the term "substantial" [211.1.9(a)(2)].

PUBLIC HEARING TESTIMONY

WASHINGTON HEARING

77-8-901-WH
Dr. Donna Dickman
Program Manager
Environmental Noise Program of
the Metropolitan Washington
Council of Governments; and
American Speech and Hearing
Association

Oral Statement

1. Dr. Dickman expressed concern over lack of public awareness of noise problem and the public's limited access to information which might assist their decision-making. She urged that the adopted labels be easily understandable and highly visible. (14-15)

2. She expressed general support for the program as a means of providing information to the public and for the inclusion of range data on the label. (15)

3. Dr. Dickman suggested an extensive public education effort be associated with the program, including mass media exposure and pamphlets readily available in public places. (15-16)

4. Factors that should affect identification of products for labeling are number of persons exposed, noise level, frequency of use, useful life and product cost. (16)

5. Dr. Dickman endorsed the selection of hearing protectors for labeling. (17)

Responses to Questions from EPA Panel: Mr. Thomas

6. Dr. Dickman suggested that a uniform descriptor be used for labeling all classes of noise-emitting products to avoid public confusion and to promote learning, and expressed the opinion that use of the range data is more vital than the choice of descriptor. (19-21)

Mr. Feith

7. When presented with possible alternative methods of providing comparative information, Dr. Dickman opted for a label which allowed comparisons between products within the same class. However, the educational program should address physiological and psychological annoyance effects of differentiated noise levels. (23-24)

Mr. Elkins and Mr. Feith

8. Dr. Dickman cited the kitchen, repair, and lawn-care areas of her household as particularly noisy. (23-24)

Mr. Ricci

9. Dr. Dickman suggested clearly visible labels attached to the product so as to catch the consumer's attention, and opposed presenting rating information via displays. (26-28)

Dr. Shutler

10. Dr. Dickman suggested that, in light of the fact that consumers do not test products for sound levels, a procedure for confirming a purported noise level on a label must have been employed before the consumer buys the product. Government oversight is the procedure Dr. Dickman had in mind, although she mentioned industry self-policing as well. (28-30)

Mr. Kozlowski

11. Dr. Dickman indicated that the public educational program must convey the fact that the noisier product is not necessarily the more powerful or more effective product. (31-33)

12. Dr. Dickman noted that, from her observation and work with the Council of Governments, consumer concern for quiet products is on the increase, generating the need for an educational program directed not only at the consumer but also at the salesperson. (33-34)

Mr. Elkins

13. Dr. Dickman commented about inability to get noise information from salespersons. She felt that even if the salespersons were educated to noise levels, the consumer could still face difficulties because realistic demonstrations of some products to check noise levels (e.g., dishwashers) are impossible to perform at the point-of-sale, and noise level comparisons between stores are meaningless because of ambient variation and memory loss. (35-36)

14. She expressed support for warning the consumer of possible health hazards of noisy products through the educational program and not on the label itself. (37-38)

15. Dr. Dickman suggested that education for the hearing protector labeling program must reach both the ultimate user and the purchaser of the defice. (38-39)

Mr. Thomas

16. Dr. Dickman mentioned the practical cosmetic problem associated with permanent, visible labels on household appliances. (40-42)

77-8-902-WH
John Reardon
Director of Government Affairs
Air Conditioning and Refrigeration
Institute

Oral Statement

1. ARI believed the EPA Background Document for Noise Labeling indicated EPA has determined that it will not initiate a noise labeling program for outdoor equipment even though Table 4-3 mentions air conditioners. (45)

2. ARI questioned whether or not the above document includes central air conditioners or room air conditioners or both in the category of outdoor equipment, especially since page 4-24 states that "outdoor equipment of Category C . . . is not of interest for labeling purposes; if it were very noisy, it would be regulated rather than labeled." (45-46)

3. Mr. Reardon discussed ARI's history of involvement with the issue of noise and ARI's development of sound-rating technology and relevant testing for its member's products. (46-50)

4. ARI indicated a preference for a voluntary program. (50-53)

5. ARI suggested that comparative acoustic data, or range, for a product not appear on the label because of updating problems and because regionally exclusive products may not be available. (53-55)

6. ARI considered the 24-hour notice for access to facilities as unreasonably disruptive and harmful to proprietary interests (211.1.9(b)(2)). (55-56)

7. He believed noise enforcement officer should not be given the authority to photograph a manufacturer's product, since the information could be given to a competitor under the Freedom of Information Act. (56)

8. Mr. Reardon indicated that relatively long notice period should be required for EPA's informing a manufacturer that a specific product is to be tested or that a specific test facility is to be used for an EPA-monitored test, because many products may be "built to order." (211.1.11(a)(1) and (2)). (57)

9. ARI objected to the exemption granted for prototype products because of the improper use that could be made of them in a display or demonstration setting. (56-57)

10. Mr. Reardon also opposed tight scheduling of test facilities, preferring the alternate proposal set forth in 2112.12(1)(d) of the hearing protector regulations. (58)

11. ARI suggested that labeling regulations permit advertising claims, beyond EPA's required rating, to reflect differing actual use conditions, possibly supplementing the standardized EPA rating point with different rating points. (58-59)

12. ARI saw no reason for the retention of test records mandated by 211.2.9(a)(2).

Responses to Questions from EPA Panel: Mr. Cerar

13. Mr. Reardon indicated that noisy air conditioners do not cool better, but the units can be altered by reducing their thermodynamic capabilities to be quieter. (68)

Mr. Feith

14. Mr. Reardon explained that an SRN number on a condenser unit would not provide a comparative rating because of the variance in sound pressure level caused by installation conditions and distance from the unit. (76-78)

15. Because of the possibility of rerating product noise level based on complaint testing, it would be costly to include sound rating number on product label rather than in directory. (78)

16. Mr. Reardon's response to questions indicatd the difficulty that an average consumer would have in determining the level of noise emitted by an air conditioner, because of (1) lack of knowledge about ARI coupled with lack of address on label; (2) price of directory listing ratings; (3) salesperson's ignorance about ratings, etc. (80-82)

Dr. Shutler

17. Mr. Reardon indicated that ARI's concern with entrance to test facilities by EPA rested primarily with regard to tests on models not intended for commercial use. (93)

18. Mr. Reardon indicated that some small manufacturers do not enter the voluntary noise certification program because of the prohibitive costs of in-house testing facilities, but the manufacturers are allowed to use independent laboratories to conduct the tests. Mr. Reardon could cite only two such laboratories capable of performing the indicated testing. (94-95)

19. Mr. Reardon described the process by which ARI, through Electrical Testing Laboratories, randomly selects the specific units of a manufacturer's model line for testing. He noted that the unit is generally selected from a warehouse rather than the assembly line, and the designated unit is sealed to prevent alteration prior to testing. (96-97)

Mr. Kozlowski

20. Mr. Reardon was not able to provide precise information on the number of products tested by the manufacturers, tested by ARI, or tested and failed. (97-100)

21. Mr. Reardon stated that a gradual drop in noise ratings had occurred since the beginning of their voluntary certification program, although consumer interest in either energy efficiency or sound ratings has not appeared high. (106-107)

22. Mr. Reardon suggested that periodic monitoring by EPA of a voluntary industry sound-rating certification program would be a more effective use of EPA resources than would a full EPA regulatory program. (108-109)

23. Mr. Reardon responded affirmatively when asked if a voluntary sound-rating certification program would be feasible for window-unit air conditioners also. (109-110)

Mr. Elkins

24. Mr. Reardon expressed concern over the possibility of government paperwork and red tape that could result from a full EPA labeling program, as well as the additional cost of the labeling itself, which might run, he had heard, as high as $1.00 for each unit's label. (110-113)

Donna Dickman (audience question)

25. Mr. Reardon responded affirmatively when asked if the idea of a noise range for a product class might be "saved" by indicating at the point-of-sale that models of certain values were not available in a given area (see point No. 4 above), but "administratively" he still felt the range information would have little practical shopping value for the consumers. (114-115).

77-8-903-WH
Theodore Berland, President
Citizens Against Noise

Oral Statement

1. Mr. Berland expressed support for the program with criticism of some points and catalogued environmental noise through a typical day's exposure. (117-119)

2. Mr. Berland suggested that EPA consider "products" for the program in the broadest sense of the term, including not only household appliances and tools but also mercantile office and factory equipment, and further suggested that the program be aimed at a broad audience beyond the immediate consumer. (119A-119C)

3. Mr. Berland suggested that the label include a decibel rating and an indication of possible harm such as "loud, 70-85 dB(A)" and "irritating, 60-70 dB(A)." This could possibly be associated with an appropriate color coding and reflective surface such as a red label for "dangerous" and yellow for "irritating." (119C-119D)

4. Mr. Berland urged a stronger, more articulated testing and enforcement plan for the program. (119D)

Responses to Questions from EPA Panel: Mr. Thomas

5. Mr. Berland responded negatively when asked if could see any evidence of industry concern with noise levels of their products or efforts to inform the public about noise (120-121)

Mr. Feith

6. Mr. Berland expressed the opinion that he would pay what it costs for a quiet environment noting that $1.00 for a noise label on an air conditioner is "pretty cheap." (121-122)

Mr. Ricci

7. Mr. Berland suggested that louder products, such as airplanes, motorcycles and kitchen appliances, be given priority in product selection for the labeling program. (122-123)

Dr. Shutler

8. Mr. Berland urged that penalties proportionate to the size of the audience affected be imposed for violations of the labeling regulations. (123-124)

Mr. Elkins

9. Mr. Berland agreed that one objective of the program should be the establishment of the noise ratings as an aid to enforcement of distinct local noise ordinances. However, local use ordinances must address the problem of alteration of the sound qualities of a product. (124-126)

Audience Question–Mr. Morris, American Rental Association

10. Mr. Berland contended that the costs of a quiet environment must be decided in the courts, and the public must be educated to the harmful effects of noise. (126-127)

77-8-904-WH. Also 77-5
Mr. Stuart Low
President
Flents Products Company

Oral Statement

1. Mr. Low objected to the handling of Subparts A and B by EPA with particular reference to the lack of distinction given them by EPA and the time obstacles for comments on Subpart B, directly affecting his firm as a manufacturer of hearing protectors. (129-130)

2. Mr. Low indicated that labeling for retail hearing protectors would not be effective because of the small size of the devices, the public's lack of awareness and the public concern with comfort rather than a technical acoustic rating descriptor. (131-133)

3. Although Mr. Low had no objection to ASA 1-1975, *per se*, he did urge caution about the use of such a relatively new procedure. (134-135)

4. With reference to 211.1.1 and .9 Mr. Low noted that the definition of 'manufacturer" for the purposes of importation remains unclear; does "manufacturer," e.g., encompass "assembler"? In addition, rules for importers have yet to be articulated. (135-137)

5. Mr. Low suggested allowances for sufficient lead time in the implementation of the labeling program to account for importation and manufacturing difficulties. (137-138)

6. Referring to 211.1.4, Labeling Content, Mr. Low pointed to excessive information requirements for earplugs, much of it duplicating contents on the product's packaging, and also objected to the large size of the proposed labels, requiring larger and costlier packaging for the earplugs. These requirements, Mr. Low concluded, are unduly burdensome to the industry, given the low cost of making ear plugs.

7. Referring to 211.1.5-.8, Mr. Low objected to the requirement to affix labels on each individual product, since many of his firm's sales are in bulk lots in cost-saving packages. Mr. Low also expressed confusion over what could be pasted as opposed to less costly procedure of printing the label. (141-143)

8. Referring to 211.1.9, Inspection and Monitoring, Mr. Low objected in light of unpleasant experiences with New York State regulations, to the "extraordinary" inspection powers afforded to EPA, and suggested two paragraphs (pp. 146-147) be appended to the regulations circumscribing EPA's orders for cessation of production. (144-147)

9. Mr. Low objected to the lack of hearings on the hearing protector proposals, Subpart B, and urged a dialogue with EPA and his industry leading to a more voluntary program. (147-149)

Responses to Questions from EPA Panel: Mr. Thomas

10. Mr. Low commented that he did not oppose the new ANSI standard test but rather was concerned about its relative novelty for testing purposes. (150-156)

11. Mr. Low expressed concern over placing rating labels on both his product's packaging insert and on the box itself, which he felt would be a costly procedure. (156-158)

12. Mr. Low suggested that EPA consider the differences for labeling purposes in hearing protectors marketed for individuals *versus* those sold in bulk packages to industry. (159-164)

Dr. Shutler

13. Mr. Low suggested more highly articulated enforcement language in the regulation, vesting cessation-of-production authority clearly in the Administrator and informing enforcement officers of the limits of their discretion. (165-168)

Mr. Kozlowski

14. Mr. Low pointed out differences in costs, marketing and packaging between ear muffs and ear plugs but preferred to defer to Industrial Safety Equipment Association comments on the ear muff matters. (168-170)

Mr. Cerar

15. Mr. Low expressed concern over possible delays in implementing Import Section 9 through Treasury Department regulations, which have yet to be issued. (171-173)

Mr. Feith

16. Mr. Low pointed out that a 12-422 attenuation test costs around $2,000, and labeling might add 80 percent to the costs of some of his firm's containers. (175)

77-8-905-WH
Roy W. Muth
Director of Technical Services
International Snowmobile
Industry Association

Oral Statement

1. Mr. Muth noted that snowmobile noise emissions have been reduced from approximately 102 dB(A) in the late 1960's to 78 dB(A) currently through industry efforts. (178-179)

2. ISIA endorsed the goals listed in "Toward a National Strategy for Noise Control" and the NPAM's Supplementary Information and suggested voluntary industry labeling as the most effective means for furthering these goals with a minimum of EPA involvement. (179-182)

3. ISIA suggested possible EPA inducements for industry to undertake effective voluntary labeling programs: a) dropping such voluntarily-labeled products to the bottom of the mandatory priority list; b) urging government agencies to favor such products; c) offering EPA testing facilities to these manufacturers; d) agreeing to joint EPA-industry financing of related sound control research; e) EPA applauding of such industry programs. (182-184)

4. Commenting on Part 211 of Title 40, ISIA suggested that EPA product selection criteria be spelled out in the regulations, thus encouraging manufacturers of such products to develop voluntary programs. He mentioned various criteria. (184-185)

5. Referring to Sections 211.1.2(f) and 211.1.4, ISIA called for clarification of the administrator's statutory authority for required label information—such as the rating scale—and for some inspection and monitoring activities, such as the 24-hour notice. (185-187)

6. ISIA suggested generally that EPA enforcement focus on a manufacturer's capability to perform the required tests, the results of the tests for noise emission, and auditing of the tests. (187)

7. ISIA could not see the purpose in 211.1.10 and suggested that it grant an exemption from labeling rather than from testing and further suggested that 211.1.11 be changed to conform to statutory authority with respect to requiring the manufacturer to ship products to EPA and allowing EPA operation of private test facilities. (188)

Responses to Questions from EPA Panel: Mr. Thomas

8. Mr. Muth explained that industry labels on snowmobiles state that the product meets the standards of the Snowmobile Safety and Certification committee on brakes, lighting and noise, the last of which is 78 dB(A) at full throttle and 73 dB(A) at 15 miles per hour, both "pass-by" tests. (192-193)

Mr. Feith

9. Mr. Muth noted that the ISIA would support dissemination of information on operator noise levels but had not yet approved a plan for doing so. (197-199)

Dr. Shutler

10. Mr. Muth pointed out that an independent laboratory verifies noise ratings using snowmobiles taken from the production line or channel of distribution. (203)

11. Mr. Muth explained that, when a model fails to meet industry standards, the manufacturers must remove the label from all its models until all are in compliance. Every model is tested every year, but none have failed. (204-207)

Mr. Kozlowski

12. Mr. Muth preferred not to suggest what would be an acceptable level of Federal involvement in the industry's voluntary program, and reiterated the advantages of a voluntary program. (208-210)

Mr. Elkins

13. Mr. Muth expressed the belief that noise level is not a major marketing factor for snowmobiles. (213)

77-8-905-WH
Roy W. Muth
International Snowmobile
Industry Association

Addendum to Responses to Questioning from EPA Panel

1. On the question of a volunteer noise labeling program in the snowmobile industry, Mr. Muth added that the Executive Committee of the ISIA had decided to adopt a voluntary program, with details to be available the following morning.

77-8-906-WH
Ernest Scott
Kirby Vacuum Cleaners

Oral Statement

1. Mr. Scott stated that labeling of domestic vacuum cleaners for noise is not needed since they are not hearing hazards, but rather most complaints refer to them as only annoyances. (190)

2. Mr. Scott suggested that a noise label might be incorporated into an overall performance label on vacuum cleaners being voluntarily developed in cooperation with the FTC. (190-191)

77-8-907-WH
Wesley E. Schwieder
Executive Engineer
Environmental and Safety
Engineering Staff
Ford Motor Company

with

Richard Genik
Noise Control Planning Manager

and

Herbert Epstein
Senior Attorney

Oral Statement

1. Ford did not wish Section 8 of the Noise Control Act to be used to circumvent Section 6, avoiding noise impact studies. (217)

2. Mr. Schwieder suggested that EPA spearhead a movement to clarify and simplify burgeoning labeling requirements through a "Federal Interagency Product Labeling Review Committee." (218)

3. Ford noted that the public education effort needed to convey the labeling program will be "virtually impossible," suggesting an understandable 1-5 scale instead of decibel levels. (218-219)

4. Ford suggested that no automobile components already covered by noise emission regulations be subject to Section 8, strongly opposing inclusion of vehicle exhaust systems in the plan as undue interference with final design. Further, Mr. Schwieder stated that Ford felt that labeling of replacement exhaust systems would not reach the consumer, would soon become illegible and would have to be labeled for multiple applications. Rather, Ford preferred a certification program as in Florida and California. (219-223)

5. Ford suggested use of the dB(A) rating as the most appropriate acoustic parameter. (223-224)

6. Ford expressed opposition to much of the enforcement scheme for the program as being basically like that imposed for medium and heavy trucks. (224-225)

7. Mr. Schwieder stated that Ford could not find evidence that EPA had considered increased costs to the consumer as a result of the program in the NPRM or Background Document. (225-226)

8. Ford questioned the authority for comparative range information on the labels. (226-227)

Responses to Questioning from EPA Panel: Mr. Cerar

9. Mr. Schwieder explained that, in the event of a running change during the model year, a labeled component part would have to be retested for assurance of its compliance with the regulations. (228-229)

10. Mr. Epstein pointed out that under the "economic impact" Executive Order 11821 extended by 11949 and as construed by OMB Circular A-107, EPA is required to perform a cost-benefit analysis of the economic impact of the Section 8 labeling program on consumers as well as on manufacturers. (229-232)

Mr. Kozlowski

11. Mr. Schwieder stated that Ford's objections to labeling of mufflers center on analogies to the "cumbersome" enforcement scheme for the heavy truck noise regulations. Ford preferred the more flexible programs of Florida or California. (232-233)

12. Although Mr. Schwieder could not comment directly on the applicability for Ford of voluntary noise programs such as those described by the air conditioning and snowmobile industry representatives, he pointed to Ford's voluntary compliance with passenger car dB(A) levels under the SAE 96A procedure and alluded to the saleability of quiet cars. (233-236)

13. Mr. Schwieder contended that compliance for a muffler-noise-labeling program's enforcement schemes similar to that for heavy truck noise would result in substantial costs, while the more flexible examples of the California and Florida program would not entail "painful costs." (237-238)

Mr. Thomas

14. Mr. Schwieder indicated that Ford's advertising for the quiet quality of its cars includes comparisons with other makes but not noise levels themselves. (238-240)

15. Mr. Schwieder commented that high performance, noisy automobiles do have an appeal to certain segments of the market, but Ford has vacated that kind of market. (240-242)

Mr. Elkins

16. Mr. Schwieder offered the opinion that a noise-level label would not be the influencing factor in consumer choice. He agreed the consumer might not perceive small dB(A) differences through test driving. (242-246)

Mr. Feith

17. Mr. Schwieder explained that Ford's concern over the comparative acoustic rating centered on the difficulties of establishing the range, in light of the EPA fuel economy rating problems. (248-250)

18. Mr. Schwieder reiterated Ford's opposition to labeling original component parts but withheld assessment of labeling replacement parts until seeing a detailed proposal. (250-251)

Mr. Thomas

19. Mr. Schwieder noted problems with noise labeling the original tires for a vehicle, such as conflicts with braking regulations. However, Mr. Schwieder deemed replacement tires worthy of consideration for labeling. (251-254)

Mr. Elkins

20. Mr. Schwieder expressed Ford's concern that Section 8 could be used to impose regulatory enforcement and to avoid the steps for identifying a product as a major noise source under Section 6. He preferred the Section 6 step be undertaken first. (254-257, 260)

21. Mr. Epstein speculated that Section 8, by its statutory language, might require a rule-making decision to designate a product as falling within its purview, unlike Section 6. (257-259)

(Also see Docket No. 77-8-643 for corrected hearing transcript and additional comments.)

77-8-908-WH
Howard W. Burnett, Officer
Rent-It Center, Inc.
Representing.the American Rental
Association (ARA)

with

Roy Morris
Attorney, ARA

Oral Statement

1. Mr. Burnett, speaking as a businessman, stated his opposition to product noise-labeling as it has been pressented, citing lack of consumer understanding and increased cost to the consumer. (263)

2. Mr. Burnett expressed concern over EPA noise regulation of tools of production such as 250 horsepower crawler tractors, since the public does not come in contact with such items and alterations could lower productivity. (264-265)

3. Mr. Burnett noted a problem with continued use, rehabilitation and resale of tools of production leading to destruction of noise labels. (265-266)

4. Mr. Burnett pointed out an air compressor noise label developed by ARA at a cost of $5.00 per label. He noted cities' general satisfaction with a sound level of 80 dB(A) at 50 feet, and felt that a worker can sustain 90 dB(A) for 8 hours. (266-267)

5. Mr. Burnett expressed the opinion that noise abatement of two cycle engines such as those in chainsaws, could have adverse consequences for safety. (267-270)

Responses to Questions from EPA Panel: Mr. Cerar

6. Mr. Burnett emphasized his perspective as a safety expert by suggesting that products lacking a potential for hearing loss (such as vacuum cleaners) or health damage need not be noise-labeled (272-275).

Mr. Elkins

7. On the issue of the need to maintain the noise label after purchase of the product, Mr. Burnett and Mr. Morris raised the problem of Section 8 notice being given to the prospective user rather than the purchaser of the product. (276-279)

Mr. Kozlowski

8. Mr. Burnett accepted Mr. Kozlowski's criticism of the 90 dB(A) 8 hour tolerance level for workers. (279-280)

77-8-909-WH
Daniel Queen
Daniel Queen Associates

Oral Statement

1. Mr. Queen suggested that the A-weighted sound pressure level is the most useful descriptor, but exposure varies in different settings necessitating the additional use of the noise power emission to judge the noise in a given setting. (287-288)

2. Mr. Queen noted that noises occurring under relatively constant circumstances, such as interior car noise, should be measured by A-weighting, but for sources varying in surroundings, such as vacuum cleaners, the power emission measurement should be used as well. (288-289)

3. Mr. Queen expressed the opinion that the public could easily learn the meaning of power emission levels, particularly if Bels are used for the power emission level to distinguish its magnitude from SPL. (289-290)

4. Mr. Queen cited the examples of the mechanical *versus* electronic sirens and of the smoke detector horns to illustrate his point that a sound pressure level measurement alone does not adequately reflect the sound performance and effectiveness of the devices. He pointed to the need for the power emission measure as a supplement. (290-293)

5. Mr. Queen suggested that the measurement problems of the sound power emission could be overcome by use of noise classes. (293-295)

Responses to Questions from EPA Panel: Mr. Thomas

6. Mr. Queen indicated that the promulgation of noise-labeling regulations could be a factor in itself in lowering costs of the required measurement methodologies, given rapid advances in the state of the technology. (295-299)

Mr. Feith

7. Mr. Queen expressed the opinion that the public could learn to read and use a logarithmic scale as well as a linear one. He urged that the common dB(A) scale should not be discarded, and concluded that achieving a scale-type rating might not be possible given the need for both pressure and power measures. (299-302)

77-8-910-WH
Richard Gimer
Compressed Air and Gas
Institute (CAGI)

Oral Statement

1. CAGI urged that clear criteria be set forth by EPA for determining what products might be subject to regulatory action. (306-307)

2. Mr. Gimer expressed CAGI's opinion that, once a product fell under Section 6 standards, it would be inappropriate, with few exceptions for high dB(A) products, to proceed to Section 8 mandatory labeling for that product. (307-308)

3. CAGI interpreted the intent of Congress in the Noise Control Act to focus on products potentially damaging or injurious to health in the products' noise emissions. (309-310)

4. CAGI considered it inappropriate for EPA to propose noise regulations for those products exclusively subject to existing OSHA noise regulations, preferring action under Section 4 (C) (2) of the Noise Control Act. (310-312)

5. Mr. Gimer stated that CAGI could not determine if a single product with a value about its established noise-rating scale would be considered a violative product, preferring the approach in gas mileage in which every product need not attain its labeled value. (312-313)

6 CAGI objected to the comparative rating on the noise label, believing industry would have to develop the scale and that such a requirement falls outside the statutory mandate of the regulations. (314-316)

7 CAGI indicated that the requirement that the model number appear on the label poses the problem of increasing label costs (316-317)

8. Mr. Gimer expressed CAGI's concern over the size of the label on a small product, suggesting that some elements, such as the EPA logo, could be removed in such cases and wished the choice of label type to be determined on a case-by-case format. (317-318)

9. CAGI objected to the inspection and monitoring provisions of the proposed regulations, holding these unauthorized by the statute, unnecessary for the program and likely to lead to litigation. (318-319)

10. CAGI expressed the opinion that the power to issue " cease to distribute" orders properly rests with the Federal District Courts. (319)

11. CAGI felt that EPA should not require products to be submitted for testing at remote sites, without full reimbursements and raised concerns over EPA supervised testing of new products intended for commerce. (320-322)

12. CAGI objected to the absence of economic analyses in the program, contending that EPA has the burden of assessing the impact of the proposed regulations. (322-323)

Responses to Questions from EPA Panel: Mr. Cerar, Mr. Elkins, and Mr. Thomas

13. Mr. Gimer urged that competitive considerations be taken into account in Section 8, economic analyses. (323-326)

14. Mr. Gimer expressed the view that finding an item in excess of its labeled noise rating should not be cause for deeming the product violative of the regulation. (327)

15. On the issue of the intended audience for the regulations, Mr. Gimer saw some confusion in addressing the regulation to either the purchaser or the user, referring particularly to high noise, low sales product outside a broad public audience. (328-331)

Mr. Cerar and Mr. Kozlowski

16. Mr. Gimer saw no useful purpose in individually labeling products used in a work place with an OSHA noise standard at the worker's ear, a standard that addresses the whole work environment. (331-333)

Mr. Kozlowski

17. Mr. Gimer stated opposition to noise testing each product off the line and preferred an "appropriate number" of the products be tested to establish the sound level, leaving aside the mathematical questions involved. The number would remain with the product, barring manufacturing changes. (333-337)

18. On the meaning of the manufacturer's obligation to supply products for testing under Section 13(a)(3), Mr. Gimer expressed concern over a testing program similar to that of the compressor regulations and expressed concern about requirements for shipping products to a central testing facility. (338-341)

19. Mr. Gimer suggested that the manufacturer identification should be required on the label only if it does not appear elsewhere. (342-344)

Mr. Feith and Mr. Elkins

20. On the issue of protecting the health and welfare of the general public or of the product's user, over cases involving a small number of products, Mr. Gimer indicated concern. (346-348)

CEDAR RAPIDS HEARING

77-8-911-CH
Bruce Anderson
representing
Senator Dick Clark

Oral Statement

1. Mr. Anderson observed that noise is a serious problem that "deserves more attention" (9)

2. Mr. Anderson expressed support for the noise labeling program, and noted that the success of the program is partially dependent on educating consumers about the seriousness of the problem. (10)

3. Mr. Anderson urged EPA to utilize existing Federal, state, and local consumer protection agencies and other consumer advocate groups to help educate consumers. (10)

Response to Questions from EPA Panel: Mr. Elkins

4. Mr. Anderson indicated that regulations, if sensible and to the point, would not be burdensome. (11)

77-8-912-CH
representing
Congressman Michael Blouin

1. Ms. Boyse observed that noise is a serious problem, though a subjective one. (13)

2. Ms. Boyse commented positively on the Agency's "good-faith effort" in developing labeling standards. (14)

3. Ms. Boyse urged the use of common sense and sound judgment, as well as careful consideration of economic costs, in the enforcement of noise regulations. (14)

Response to Questions from EPA Panel: Dr. Shutler

4. Ms. Boyse supported the use of a maximum noise rating on the label. (16)

77-8-913-CH
Dr. Charles Anderson
American Speech and Hearing
Association

Oral Statement

1. Dr. Anderson noted the increase in the level of noise and its negative impact on communication and general health. (20-22)

2. Dr. Anderson stated that it has been the clinical impression of audiologists that the incidence of high-frequency hearing loss is on the icnrease. Such hearing losses are subtle and very difficult to detect. (23-24)

3. Dr. Anderson cited concern among consumers about the effects of noise. (24)

4. Dr. Anderson expressed support for noise labeling and regulation and suggested that noise labels also include the frequencies involved in the noise level, since these frequencies have a differential impact on hearing loss. (24-25)

5. He recommended a public information program which would serve to enlighten the consumer about the value and usefulness of noise ratings. (25-26)

Responses to Questions from EPA Panel: Mr. Thomas

6. Dr. Anderson indicated that hearing loss is not the only health hazard that results from noise exposure, but that studies have shown high correlations with peptic ulcers and hypertension. (27)

7. He mentioned that it is not easy to establish a causal relationship between hearing loss and noise and discurred the problems caused by the complexity of people's habits and their tendency to change their behavior once they are aware they are being tested. (28)

Mr. Kozlowski

8. Dr. Anderson suggested certain criteria for choosing the products to be labeled: level of noise, number of people affected and the frequency with which a product is replaced. (29-30)

Mr. Thomas

9. Dr. Anderson supported a uniform noise measure for all products to facilitate comparisons. (31-32)

10. He felt that eventually a maximum rating was desirable in addition to the average rating. (32)

Mr. Ricci

11. Dr. Anderson recommended use of the mass media to help educate the public, in addition to utilizing the service organizations that exist to help spread materials. He indicated that based on his experience, people will respond when provided with information. (33-34)

Mr. Elkins, Mr. Kozlowski, Mr. Thomas

12. Dr. Anderson mentioned a case in the University Hospitals' files where permanent hearing loss followed the use of a chain saw. (34-35)

Mr. Feith

13. Dr. Anderson cited the high incidence of health problems among persons living near airports as an example of a noise related health problem. (36)

Mr. Ropes

14. Dr. Anderson listed the SERTOMA Club and the Lions Club as service organizations willing to help with the noise problem. (36)

77-8-914-CH
Representative Joan Lipsky
Iowa General Assembly

Oral Statement

1. Ms. Lipsky expressed her concern for noise pollution and her belief that it should be subject to regulation. (38-39)

2. Ms. Lipsky expressed her opposition to the noise labeling program, because persons are concerned only about the noise levels of machines operated by others. (39-40)

3. She felt that Iowans do not want federal noise control, but appreciate EPA's assistance in developing state and local programs. (40-41)

4. Ms. Lipsky maintained that labeling will increase costs to the consumer while confusing him about their meaning and bringing no relief from the noise made by others. (41)

5. Ms. Lipsky asked for the EPA's assistance in drafting noise legislation that is enforceable and constitutional, in developing an enforcement mechanism, and in developing training programs for enforcement personnel. (41-42)

Responses to Questions from EPA Panel: Dr. Shutler

6. Ms. Lipsky expressed her interest in the current EPA program to train police officers to enforce noise regulations. (44)

Mr. Elkins

7. Ms. Lipsky disputed the utility of the labeling program, mentioning that it is difficult to account for environmental noise. Enforcement of noise regulations, she argued, will require technically trained persons. (46)

Mr. Feith

8. Ms. Lipsky responded affirmatively when asked if she advocated the establishment of environmental noise levels rather than specific product regulations. (47-48)

9. She observed that consumers don't usually pay attention to the ingredients labels found on food. (48)

Mr. Ropes

10. Ms. Lipsky expressed her appreciation for EPA's assistance with information in the past. (49)

77-8-915-CH
Larry Dupre
Illinois EPA
Noise Technical Operations Center

Oral Statement

1. Mr. Dupre expressed his support for the proposed regulations because they would increase public awareness and spur competition among manufacturers to decrease the noise level. (53)

2. Mr. Dupre suggested adding a footnote to the label to explain the scale being used. (53)

3. He recommended the use of consistent measurement techniques within each product category. (53)

4. Mr. Dupre expressed support for the regulation of mobile noise sources such as off-road motorcycles, motorboats, snowmobiles, lawnmowers, chain saws and power model vehicles as well as stationary products, such as resident air conditioners and ventilation equipment, that affect third parties. (54)

5. Mr. Dupre suggested labeling consumer products such as hair dryers and vacuum cleaners, in addition to labeling products such as mufflers which are sold on the basis of noise reduction effectiveness. (54)

6. Mr. Dupre expressed his belief that the proposed EPA standards will assist the Illinois noise control program by aiding enforcement and increasing public awareness. (55)

Responses to Questions from EPA Panel: Mr. Kozlowski

7. Mr. Dupre mentioned that noise level ratings on products being regulated would help enforcement of the regulations. (55)

Mr. Feith

8. Mr. Dupre responded affirmatively when asked if the Illinois EPA receives requests from consumers for information on the noise level of products. He indicated that the information available is limited. (56)

Mr. Ricci

9. Mr. Dupre indicated that the most important time to have a label is at the time of purchase. A permanent label would be beneficial in some cases, such as on a muffler, since it could be incorporated into an auto inspection. (57)

Dr. Shutler

10. Mr. Dupre indicated that at the present time Illinois has no regulations regarding household products and would be unable to enforce them. (59)

Mr. Elkins

11. Mr. Dupre suggested a rating scale for each category of products. (59)

77-8-916-CH
Richard Worm
Environmental Coordinating
Association

Oral Statement

1. Mr. Worm spoke about products whose noise levels have been a source of irritation for him: his neighbor's air conditioner, lawnmowers, motor vehicles, the ventilation system at the school where he works, office machines such as typewriters, coffee machines and blowers. (66-71)

2. He discussed the notion that attitudes toward noise develop when one is quite young. (71-72)

3. Mr. Worm expressed support for the product noise labeling program. (75-76)

Responses to Questions from EPA Panel: Mr. Ricci

4. Mr. Worm suggested that labeling would help to educate the public. The public is not totally economy-mineded. (78-79)

5. Mr. Worm supported the idea of a label affixed directly on the product. Persons are not inclined to put much work into purchasing a product so information must be easily available to the public or it is not likely to be widely utilized. (79-80)

Mr. Ropes

6. Mr. Worm, as a 9th grade teacher of Earth Science, responded positively when asked what he though of a module concerned with educating children about noise. (81)

77-8-917-CH
Vern Kamps
American Association of
Retired Persons

1. Mr. Kamps indicated that between 20 and 30 percent of the persons over 55 for whom his association attempts to find employment have some degree of hearing loss. Most of these persons were exposed to excessive noise levels in factories in the past. (82)

2. Mr. Kamps spoke about the button factory in which he has been employed and the high noise level in that factory. (82-83)

Response to Questions from EPA Panel: Mr. Ropes

3. Mr. Kamps stated that he values quietness in a product, indicating a noise label would affett his purchasing decision. (83)

4. In response to a question, Mr. Kamps indicated that persons exposed to factory noise really never realized the danger. (84)

5. Mr. Kamps indicated that he was unaware of anyone from the federal government, such as OSHA, enforcing any sort of noise regulation in his factory. (85)

Mr. Feith

6. Mr. Kamps stated that no one in his factory had worn hearing protectors. (85)

77-8-918-CH
Willis Lueders
Transparent Film Workers Union

Oral Statement

1. Mr. Lueders spoke at length about the hearing protection program in the Dupont factory where he is employed. He mentioned the management's efforts to cut down on the noise level by installation of carpeting and acoustical tiling, a yearly physical which includes an audiogram, clear indication of the instances in which one must wear a haring protector, the methods for monitoring exposure time and the use of mufflers on machines. (86-93)

Responses to Questions from EPA Panel: Mr. Kozlowski

2. Mr. Lueders thought that unions could and should "sell" the idea of the need for quieter equipment to their members. (93-94)

Mr. Elkins

3. Mr. Lueders mentioned the importance of good communication between the employees and the management. (95)

Mr. Ropes

4. Mr. Lueders mentioned a take-home safety program that also existed in their plant. (96)

77-8-919-CH
Pat Dillan
United Auto Workers

Oral Statement

1. Mr. Dillan seemed to feel that the law should address itself to preventing noise in products as they are manufactured rather than just mandating protection for employees. (100-104)

2. Mr. Dillan described the difficulties involved in getting compensation for a workman who has suffered gradual but permanent hearing loss. (104)

3. From his experience, Mr. Dillan noted that excessive noise, even if one's ears are protected, can lead to such health problems as indigestion, nervousness and migraine headaches. (105)

Responses to Questions from EPA Panel: Dr. Shutler

4. Speaking as a consumer, Mr. Dillan supported a public education program through the media in addition to a labeling program. (108)

Mr. Kozlowski

5. Mr. Dillan indicated that increased costs should be passed on to the consumer and not the worker, since quieter machinery is a cost of production. (108-109)

Mr. Feith

6. Mr. Dillan indicated that very little attention was paid by some plant workers to noise warning signs placed in the working areas. (111-112)

Mr. Ropes

7. Mr. Dillan indicated that his union local would be delighted to assist in an educational campaign. (112)

77-8-920-CH
Ed Harwick
United Auto Workers

1. Mr. Harwick discussed methods other than replacement of machines which could help to reduce noise in a factory. He suggested mechanical changes as well as better maintenance. (114-115)

2. Employees in his factory complained about the uncomfortableness of all three hearing protectors they were issued by the management. (116)

77-8-921-CH
Ed Ryan
American Association of
Retired Persons

Oral Statement

1. Mr. Ryan argued that most of American industry does not care about "people problems." (117-120)

2. He expressed support for a labeling program, particularly if there was an educational program to back it up. (120)

77-8-922-CH
Mary Pickett
Iowa State University Faculty

1. Mary Pickett stressed the fact that household appliances should be studied in the environment in which they are used as well as in isolation. (125-126)

2. She indicated that studies have shown that noise can be annoying and can produce stress, but that no studies have demonstrated that physiological damage is related to interior environmental noise. (126)

3. Related to this concern, Mrs. Pickett observed several factors about the average American consumer:

    a. Middle and low income families are now being forced to buy cheaper dwellings made from less expensive materials that vibrate more easily. (126-127)

    b. Because of economic constraints, these families are more concerned about the house than the appliances found in it. (127)

    c. In addition, persons have different levels of sensitivity to noise. (127)

4. Mrs. Pickett stated her concerns about the cost of labeling, noting that the cost increase will be passed on to the consumer who uses price as his parameter for purchase decisionmaking. This has already been demonstrated with the energy-efficiency ratio labeling which the consumer does not use because he does not understand it. Furthermore, the consumer still buys the cheaper product. (128-129)

5. Mrs. Pickett urged encouraging the building industry to consider house design in terms of the appliances in the house. (130)

6. Mrs. Pickett felt that persons who service and install household appliances should be educated to consider the surroundings of the appliance. (130-131)

7. Mrs. Pickett observed that manufacturers are in the best position to do noise level research, so that their support is needed. (131-132)

Responses to Questions from EPA Panel: Mr. Thomas

8. Mrs. Picket expressed her concern about the estimated one to two percent increase in price that a labeling program would cause. (141)

Mr. Elkins

9. Mrs. Pickett's response to a question indicated that if she was given data to support the fact that noise from household appliances causes physiological damage, she would not question the 1% increase in prices that could be caused by the program. (142)

10. Mrs. Pickett urged that attention be focused on the effective management of appliances.

77-8-923-CH
Tanya Wesley
Student

Oral Statement

1. Ms. Wesley expressed her reluctance to pay for the noise abatement program. (143)

2. Ms. Wesley argued that the quieter products are higher in price and are not being purchased by the consumer. (144)

77-8-924-CH
John Harris
J. I. Case Company

1. Mr. Harris expressed the Case Company's support for "reasonable labeling of products as to noise levels." (152)

2. Mr. Harris suggested several factors he considered to be important for the success of the program: the necessity for educated consumers who are aware of the noise program, a uniform and repeatable product noise measurement procedure and a situation in which manufacturers are allowed to develop quieter products competitively. (152)

3. The Case Company recommended that a reasonably permanent label be attached to the product, the range of noise levels for a product class not be included on the label, the test methodology be included on the label, and that the rating be expressed in dB(A) and not an acoustic rating descriptor. (153-154)

4. Mr. Harris cited the successful Nebraska program for testing noise emission levels of agricultural tractors. As a result of the program, quieter products were produced through competition. (155)

5. Mr. Harris felt that a uniform noise descriptor across product classes would be of little comparative value, whereas a uniform descriptor within a product class is a necessity. (157-158)

6. Mr. Harris indicated that EPA enforcement would not be necessary; industry can police itself through competitive testing among manufacturers. (159)

7. Mr. Harris suggested that noise reducing products should not be labeled. (160)

Responses to Questions from EPA Panel: Mr. Elkins

8. Mr. Harris elaborated on the Nebraska program, emphasizing the positive impact of a uniform standard. (161-162)

Mr. Thomas

9. Mr. Harris suggested that if a noise range must be included on the label, it should be related to price range. (167-168)

10. Mr. Harris expressed opposition to providing a noise range on a product label. Such information would be deceptive as far as the availability of all products. Comparative shopping in an area would be more effective. (169-170)

Mr. Feith

11. Mr. Harris pointed to the market place as an effective mechanism for defining the manufacturer's responsibility for the label. (171)

Mr. Ricci

12. Mr. Harris explained that consumer surveys used in the Nebraska program initially indicated a preference for noisy tractors, but the availability of test results created a demand for quieter tractors. (175-176)

Dr. Shutler

13. Mr. Harris asserted that industry protocol and cross industrial testing provide a sufficient incentive for compliance with EPA directives. (177)

14. Mr. Harris advocated the use of the mean value of the noise level and not the maximum value. (183)

Mr. Kozlowski

15. Mr. Harris favored voluntary action on the part of industry and utilization of the market place to obtain compliance. (185-186)

77-8-925-CH
Eldon Colton
Safety Commissioner
City of Cedar Rapids

Oral Statement

1. Mr. Colton elaborated on the experiences his office has had with noise regulations. Cedar Rapids had adopted and attempted to enforce a noise regulation for motor vehicles that was subsequently struck down in court. This action was taken because there was no legal authority for local regulation of noise. (192)

2. Mr. Colton stated that his office lacks effective means of enforcement under present legislation. (192-193)

3. Mr. Colton thought there would be puclic support for a comprehensive noise ordinance in Cedar Rapids. (195)

Response to Question from EPA Panel: Mr. Ricci

4. Mr. Colton stated that a labeling program would provide standards that their department could use to enforce legislation. (196-197)

77-8-926-CH
Iowa Department of
Environmental Quality

1. Mr. Bach expressed support for noise abatement programs, particularly the labeling program. (199)

2. He stated that a label should contain enough information to allow a consumer to decide whether the noise level of a product should influence his purchase decision. (199)

3. The noise level rating should also be somehow related to the consumer's health and welfare. The inclusion of such information would enable the consumer to educate himself over a period of time. (200-201)

Response to Questions from EPA Panel: Mr. Cerar

4. Mr. Bach mentioned a curricula on environmental education that is being developed for statewide use, but stated there was no program to educate adults. (202-203)

77-8-927-CH
Dr. Claire Kos
Executive Director
American Academy of Ophthalmology
and Otolaryngology

Oral Statement

1. Dr. Kos indicated that he was not speaking officially for his organization.

2. Dr. Kos noted that increased longevity means that more persons have hearing impairments. (210)

3. Hearing loss is gradual and incremental; once it becomes apparent it is too late to recover what has been lost. (211)

4. Dr. Kos stated that excessively loud noises may compound physiological weaknesses. (211)

5. Dr. Kos noted that, according to scientists, the level of sound found damaging to the ears varies due to differences found in human ears. (213)

6. Dr. Kos urged the adoption of warnings similar to those present on cigarette packages since it is not possible at the present time to predict whose hearing will be impaired. (215-216)

7. Dr. Kos felt that it is impossible to guarantee consumers' safety from products, and that the public must be educated to understand the limitations in regulatory judgment. (217)

Responses to Questions from EPA Panel: Mr. Elkins

8. Dr. Kos noted that the problem of noise in children may have a delayed effect. (219)

Mr. Feith

9. Dr. Kos though that intermittent noise could cause fatigue in the ear muscles and eventually, hearing loss. (221-222)

10. As a consumer, Dr. Kos felt that the amount of noise produced by a product is not as important a consideration as the quality of the product. (223)

77-8-928-CH
Niel Van Hoef
Iowa Speech and Hearing Association

Oral Statement

1. Mr. Van Hoef expressed his support for the proposed noise labeling standards. (226)

2. Mr. Van Hoef argued that the media, advertising, and other groups have confused the public with respect to noise measurements. Efforts need to be made to standardize noise measurements. (226-227)

3. Mr. Van Hoef suggested color-coding the acoustic desciptor on the label. (227-228)

Responses to Question from EPA Panel: Mr. Elkins

4. Mr. Van Hoef suggested the use of a sound-meter as a good means of educating the public about noise and sound intensity. (232)

5. Mr. Van Hoef observed that it is impossible to know what other noise levels a person has been exposed to during the day. Since it is possible that hearing damage is the result of the cumulative impact of noise, it is important to let the consumer know what the noise level of a particular product is. (234)

77-8-929-CH
Judy Sullivan
Consumer Education Coordinator
Kirkwood Community College

1. Mrs. Sullivan commented on the level of hearing impairment present today. An estimated 14 million Americans have suffered some type of hearing loss. The statistics indicate a serious problem among young people who have a high rate of high frequency hearing loss. (236-239)

2. Mrs. Sullivan expressed support for the labeling program, in addition to labeling regulations in an attempt to control noise at the source. (239-240)

3. Mrs. Sullivan stressed the importance of consumer education. (240)

Responses to Questions for EPA Panel: Mr. Thomas

4. Mrs. Sullivan emphasized the importance of the public right to be informed of the noise level of a product so that a conscious choice is possible. (242)

5. Mrs. Sullivan compared the noise problem to other situations where warning labels are required to indicate possible dangers to one's health. (243)

77-8-930-CH
James Klimes
Safety and Environmental Dept.
Deere and Company

with

Richardson Anderson
Attorney

Oral Statement

1. Mr. Klimes indicated the Deere Company could support mandated noise labeling programs "provided they are founded on need and administered in a reasonable and meaningful manner." He urged the use of existing voluntary labeling programs and the encouragement of new voluntary programs. (246)

2. Mr. Klimes stated that Deere and Company promote their products extensively on the basis of the noise control measures incorporated into their designs. (248)

3. He expressed the Company's concern that EPA is expanding its legislative authority by basing the decision of which products to label on individual perceptions and other subjectively defined criteria. (289)

4. Mr. Klimes implied that labeling regulations can only be applied when there is factual evidence that a capability for adverse effects exists. (249-250)

5. The purpose of labeling should be to inform product purchasers of potential adverse effects. (250)

6. Given these constraints, he indicated that Deere and Company could foresee beneficial uses of labeling, such as for identifying products capable of adverse effects, as complementary to reasonable noise level regulations or as an alternative to product noise level regulations. (250)

Responses to Questions from EPA Panel: Mr. Elkins

7. Mr. Klimes implied that it is difficult to interpret the meaning of "health and welfare," and criteria to determine this are not easily established. (254)

8. Mr. Klimes indicated, based on the *Congressional Record*, that the primary concern of Congress at the time of the passage of the Noise Control Act was with noise that could produce hearing impairments. (254)

Mr. Thomas

9. Mr. Klimes said he would defer but would give some though to whether it should be the purchaser or potential user who needed to be given noise information. (258)

Mr. Kozlowski

10. Rather than identify classes of products to be labeled, Mr. Klimes indicated that first firm criteria for choosing products must be set and that each product must be weighed against those criteria. (266)

Mr. Feith

11. Mr. Klimes responded affirmatively when asked if he would submit a list of the products the Deere Company already labels for noise. (264)

(See Docket No. 77-8-738 for additional comments and responses to questions from EPA panel.)

77-8-931-CH
Marion Leese
American Association of
Retired Persons

Oral Statement

1. Mrs. Leese expressed support for noise abatement. (270-271)

2. Mrs. Leese compared noisy products to products requiring danger warnings. (271)

Response to Question from EPA Panel: Mr. Elkins

3. Mrs. Leese stated that she would use quietness as one criterion for making a purchase decision. She noted that her new vacuum cleaner is louder than her old one. (272)

77-8-932-CH
Cleo and Charles Edinger
American Association of
Retired Persons

Oral Statement of Charles Edinger

1. Mr. Edinger Briefly elaborated on the noise abatement program. (274-276)

2. Mr. Edinger expressed his support for the labeling program. (277)

Response to Question from EPA Panel: Mr. Elkins

3. Mrs. Edinger responded affirmatively when asked if she had noticed a distinct difference between the amount of noise made by various brands of vacuum cleaners, and responded negatively when asked if she would be able to determine the quieter product in the store. (277)

Oral Statement of Cleo Edinger:

4. Mrs. Edinger mentioned cars, trucks, trains and motorcycles as being major sources of noise in her town. (278-281)

77-8-933-CH
Sheila Sidles
Executive Secretary
Iowa Consumers League

Oral Statement

1. Mrs. Sidles stated that noise pollution has been a concern among many consumers she has spoken with, though it has not been one of the major concerns. (284)

2. Regarding noise-reducing products, Mrs. Sidles expressed strong support for labeling which indicated the level of effectiveness of the product. She noted that certain products are used to block out different noises in different instances. (285)

3. Mrs. Sidles stated that noise is sometimes necessary for safety, as it indicates that an appliance is in operation. (285)

4. Mrs. Sidles indicated that cost and efficiency are the primary considerations for the consumer. (286)

5. In cases where products can cause hearing damage, labeling is not sufficient. (286)

6. Mrs. Sidles mentioned the difference between products in duration of use and its problems. (287)

7. Mrs. Sidles stated that she was "not sure we are ready for mandatory noise labeling and the enforcement that then would come with it." (287)

8. Mrs. Sidles suggested educating consumers concerning noise effects and methods for handling noisy appliances. (288)

9. Mrs. Sidles expressed support for voluntary labeling by manufacturers rather than regulation. (289)

Responses to Questions from EPA Panel: Mr. Kozlowski

10. Mrs. Sidles stated that one reason for her reluctance to see federal regulations imposed is that such action makes an industry less competitive, since entry into the industry is made more difficult for new firms because of increased costs. (292-293)

Mr. Cerar

11. Mrs. Sidles observed that there are many factors that concern a consumer. Noise may not be a priority, but it is a very real concern, particularly with the increased incidence of hearing loss. (294)

Mr. Thomas

12. Mrs. Sidles urged giving industries a chance to act voluntarily before making a program mandatory. (296)

77-8-934
Pam Kidd

Remarks from the Floor

1. Ms. Kidd suggested that as the public became educated, industry would be forced to regulate itself because of demand. (297)

2. Ms. Kidd pointed out that independent testing companies are likely to develop as a result of demand. (297)

77-8-935-CH
Steve Keller

Oral Statement

1. Mr. Keller observed that when industry makes an addition to a label on its own impetus (such as the Universal Product Code) there are few complaints about costs. (300-301)

2. Mr. Keller expressed his support for labeling products and regulating products which affect a third party. (301)

3. Mr. Keller complained about the noise level of motor vehicles emphasizing the high cost and short life expectancy of muffler systems. (303)

4. Mr. Keller expressed concern about the noise level he faces as an industrial worker. He suggested that certain machines could be isolated and indicated that soundproofing materials, such as those present in the office area of his factory, could be added to cut down the noise level. (304-306)

Responses to Questions from EPA Panel: Mr. Thomas

5. Mr. Keller suggested that the label include an indication of how long the product will maintain its noise rating. (309)

77-8-936-CH
John Kammerer
Product Manager
White Goods of Amana Refrigeration

with
Raymond Bowman
Vice President of Engineering of
Central and Room Air Conditioning
Products

1. Mr. Kammerer expressed Amana's support for the noise labeling program because industry can operate better with uniform federal standards than varying state standards. (313-314)

2. Mr. Kammerer pointed out that the goals of the noise abatement program might conflict with the energy efficiency goals of the FEA. (314-315)

3. Mr. Kammerer pointed out that Federal programs that were originally intended to be voluntary, such as the FEA energy-efficiency program, have changed directions rather suddenly. (316)

4. Mr. Kammerer mentioned two existing appliance industry noise labeling programs: The Air Conditioning and Refrigeration Institute sound-rating program and the Association of Home Appliance Manufacturers. Both of these programs could meet the four criteria of the labeling program established by EPA with minimal effort. (316-317)

Responses to Questions from EPA Panel: Mr. Kozlowski

5. Mr. Kammerer stated that the voluntary program for air conditioners, in its present form, could not be applied to other products. Similar programs could be developed. (318)

6. Mr. Kammerer felt that industry is capable of policing itself. (319)

Mr. Elkins

7. Mr. Kammerer indicated that in those instances when Amana does have a sound rating for a product, it is not listed on the product itself but on the specification sheets and certification directory. (519)

8. Mr. Kammerer felt that listing the sound rating number on a specification sheet is sufficient for central air conditioners. (319-320)

9. Mr. Kammerer expressed Amana's willingness to provide the noise rating on labels for products, though he added that the testing facilities are largely occupied by energy testing at the present time. (320)

10. Mr. Kammerer stated it was his experience that consumers are becoming increasingly concerned about energy, particularly as energy costs increase. Consumers do utilize energy labels. (320)

11. Mr. Kammerer indicated EPA's responsibility to educate the consumer to use the label. (322)

Mr. Feith

12. Mr. Bowman, a colleague of Mr. Kammerer, indicated that the noise rating number provided on the specification sheet is not explained on that sheet, though such information is available. The consumer is not furnished with information on room air conditioners. (327)

13. Mr. Kammerer argued that if the public demands information on noise, the industry is likely to provide it in a more accessible fashion. (328)

77-8-937-CH
Kenneth Truce

Oral Statement

1. Mr. Truce expressed concern with the level of noise pollution found in all areas of the country. (332-333)

2. He observed that many Americans are seeking peace and quiet, though it is difficult to find. (334-335)

3. Mr. Truce mentioned the situation where a person uses air conditioning as a means to block out noise and filter the air. (336-337)

4. Mr. Truce expressed support for regulations but noted that industry tends to resent regulations while consumers resent paying for them. (337-338)

5. Mr. Truce argued that consumers have a right to have noise information available, while his experience with lawnmowers and refrigerators has indicated that it is not readily available. (339-340)

6. Mr. Truce stated that noise increases stress on people. (341)

7. Mr. Truce argued that an educational program is needed. (341)

8. Mr. Truce suggested that noise demonstration in stores are unreliable, since a large part of noise is contingent on the environment. (345)

77-8-938-CH
Dan Dykstra
Student
University of Iowa Law School

1. Mr. Dykstra submitted a report entitled "Silencing the Roar–Should Iowa Enact Noise Control Legislation?" which was written for the Iowa Senate Transportation Committee. (353)

2. Mr. Dykstra stated that he had worked on the report as a member of the Senate Majority Research Staff at the Iowa State Capitol. (353)

3. Mr. Dykstra stated that noise not only has physical effects, but emotional, social and economic effects as well. (354)

4. Mr. Dykstra stressed the importance of considering household noise in addition to environmental noise. Noise in the home adds stress to the lives of the family, who usually return home to escape stress. (354-355)

5. Mr. Dykstra mentioned that his recommendations lean toward "demanding industry to quiet the goods." (355)

6. To effectively control noise, Mr. Dykstra suggested four steps:

   a. Establishment of comprehensive national regulations for household products that make noise. These regulations should be attainable by manufacturers. (355-356)

   b. Adherence to the established regulations. (356)

   c. Education of the American people about noise in general. (357)

   d. Enforcement of all regulations, through a program which might include the voluntary participation of households. (357)

Responses to Questions from EPA Panel: Mr. Thomas

7. Despite Mr. Dykstra's confidence in the American public, he did not believe that they would utilize noise rating schemes because such schemes are difficult to understand. (360-361)

77-8-939-CH
Lee Fisher
Grant Wood Area Education
Association

Oral Statement

1. Mr. Fisher indicated that his association has hearing records for 5,100 school aged students, 7 percent of whom have experienced some sort of hearing loss. Of those persons, 40 percent have high frequency hearing loss, with the severity of loss varying widely. (365-366)

2. Mr. Fisher stated his belief that there is a direct relationship between noise exposure and the hearing losses suffered by children. (367)

3. Mr. Fisher categorized noise sources: noise present in the household due to household appliances, noise due to household tools, and noise to which exposure is voluntary, such as recreational equipment or stereos. (367-368)

4. Mr. Fisher indicated that high frequency hearing loss affects a person's ability to discriminate between sounds and can be quite serious. (369)

5. Mr. Fisher indicated that the Grant Wood Area Education Association was finding students whose ability to study was affected by this type of hearing loss. (369)

Responses to Questions from EPA Panel: Mr. Kozlowski

6. Mr. Fisher suggested that labeling would help increase public awareness, but it was more important to establish maximum sound levels on products that are affecting the hearing levels of children. (370)

Mr. Cerar

7. Mr. Fisher indicated that minor hearing loss in a child may become very serious as the child reaches adulthood. (371-372)

Mr. Feith

8. Mr. Fisher stressed the importance of making the consumer aware of the frequency range of a product, an element not included in the dB(A) measurement. (373-374)

SAN FRANCISCO HEARING

77-8-940-SH
James Shone
Citizens Against Noise
Hawaii

Oral Statement

1. Recommended that any labeling program be accompanied by an effort to inform the public about the harmful effects of noise. (12)
2. Mr. Shone suggested some kind of rating for housing units themselves that would inform purchasers about noise properties of design and construction. (13)
3. Effective noise labeling should include some indication "when a hazardous threshold is crossed." (15)
4. Mr. Shone supported labeling of certain products (cars) both as a whole and also with respect to their noise-producing components. (17)
5. Recommended color code for label with red being above 70 dB(A), yellow being between 50 and 70 dB(A), and green being under 50 dB(A). Mr. Shone also preferred, in addition to the color, an appropriate description such as "very noisy." (18)
6. Mr. Shone suggested that labels be permanent, that warning lights be used on radio and stereo equipment, that noise information be required on advertising, and that range information be retained as in the sample label. (19-21, 58)
7. Mr. Shone opposed testing and export exemptions. (22)
8. Mr. Shone suggested products for labeling: typewriters and office equipment, high frequency emitting equipment, toys, air conditioners, blenders, hair dryers, saws, power tools, compost grinders, garbage disposals, dishwashers, refrigerators, etc. (23-26)

Responses to Questions from EPA Panel: Dr. Shutler

9. Mr. Shone believes strong federal enforcement is needed rather than relying on industry's self-policing. (27)
10. Mr. Shone recommended that in labeling a product the maximum value of a series of tests be used for the rating instead of the average value. (29)

Mr. Kozlowski

11. Mr. Shone recommended labeling in addition to emission standards for autos, garbage trucks, buses, etc. (32)

Mr. Elkins

12. According to Mr. Shone, one purpose of the product labels is to facilitate enforcement by local officials, who can simply check a vehicle's noise label. (37)

Mr. Thomas

13. Mr. Shone encouraged the incorporation of some type of noise warranty, or acoustical assurance period, into the label or other sales literature–suggesting the possibility of a two-year warranty period. (45-46)

14 Mr. Shone saw no major problem in having labels permanently affixed to the product, except for acoustic tile and esthetic considerations. (53-54)

15 Mr. Shone indicated that companies do not provide consumers with information on the noise levels of their products. (60-62)

16. Mr. Shone noted there may be a serious problem caused by multiple labels. (61-63)

Mr. Feith

17. Mr. Shone noted that the quality of sound, affected by its periodicity or degree of intrusion, is a factor to consider in a labeling program, and mentioned possibility of incorporating sound quality into the rating scheme. (65-66)

18. Mr. Shone discussed the problem of using a color code when there may actually be two noise measurements of importance–at the operator's ear and some distance away. (67-69)

Mr. Ricci

19. In response to a question concerning the noise rating on the label, Mr. Shone stated that a 1 to 10 scale might be "very good," but also mentions the need for a word descriptor such as "very noisy." (71-72)

77-8-941-SH
Robert Friese
Chairman of Task Force on Noise Control
San Francisco

with

Cormac Brady
Senior Mechanical Engineer
San Francisco Department of Public Works

and

Officer Richard Podisco
San Francisco Police Department

Oral Statement

1. Mr. Friese expressed support for the labeling program and the idea of color coding. He noted that duration of noise is an important factor to consider in developing a noise rating, and mentioned Dr. Karl Kryter as a source of expertise in this area. (80-82)

2. Mr. Friese believed that the label should be permanent, since this would assist enforcement of local ordinances. In some cases, however, such as household appliances, a permanent label may not be practical. (83-84)

Responses to Comments from EPA Panel: Mr. Feith

3. To assist enforcement, a decibel rating is needed, according to Mr. Brady. He also mentioned how the labeling program could benefit local enforcement efforts, particularly with reference to construction equipment (e.g., on-site checks, evaluating degradation). (87-92)

Mr. Ricci

4. With respect to the issue of how to affix a permanent label to a muffer, Mr. Podisco indicated that a stamping operation is required, with the number or lettering protruding outward to prevent counterfeiting. Also, a heat-resistant paint could be used for the muffler label's color code. (96)

Ms. Jordan

5. Mr. Friese discussed his group's public relations efforts, which included a noise annoyance survey indicating that vehicular noise (buses, motorcycles, and trucks) elicited the greatest number of complaints. (96-102)

Dr. Shutler

6. Mr. Friese preferred that the label's noise rating be derived from the maximum level a product of a given type could emit rather than from an average number. (103-104)

7. Mr. Friese indicated that sirens should not be labeled; Mr. Brady noted that most complaints were about the electronic siren, which was actually not the noisiest but had the most annoying quality. Mr. Friese commented that it would be a mistake to limit the rating to dB(A)'s and ignore the quality of the noise. (105-107)

77-8-941-SH
Robert Friese
Chairman of Task Force on Noise Control
San Francisco

with

Cormac Brady
Senior Mechanical Engineer
San Francisco Department of Public Works

and

Officer Richard Podisco
San Francisco Police Department

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77-8-942-SH
Gerald E. Starkey
Santa Clara County
Environmental Management Agency

Oral Statement

1. Mr. Starkey expressed support for the labeling program and nominated the air conditioner as a primary candidate for noise abatement action. He noted that, with many people keeping their windows open and with typical installation conditions, the air conditioner poses a "formidable community problem." (110-113)

Responses to Questions from EPA Panel. Dr. Shutler

2. Mr. Starkey thought EPA labeling would provide incentive beyond the voluntary ARI system in influencing ARI manufacturers' noise reduction efforts. (115)

Mr. Feith

3. Mr. Starkey, when asked to comment on label content, noted that a good approach was to include a statement which notes the noise emitted by a quiet refrigerator or another familiar product—a measurement that could be easily compared with the noise rating of the product being purchased. (119)

4. Mr. Starkey listed common noise complaints: air conditioners, pool systems, and motorcycles. He will supply a more complete list at a later date. (119-121)

77-8-943-SH
Judy Barnett
Concerned Citizen

Oral Statement

1. Mrs. Barnett expressed support for labeling program and commented on the results of her recent research. (124-125)

Responses to Questions from EPA Panel: Mr. Elkins

2. She stated that homemakers would use the label information when purchasing certain products. (127)

3. Mrs. Barnett suggested a public education program using magazines, newspapers, and the local school system. (128)

4. Mrs. Barnett noted that she could not find information about the noise levels of vacuum cleaners, refrigerators, blenders, and similar products. (129, 139-140)

Mr. Thomas

5. She listed products representing priority items for labeling: motorcycles, blenders, garbage disposals, and vacuum cleaners. (130)

Mr. Ricci

6. Mrs. Barnett preferred using decibels on the label, didn't want a rating scheme which makes comparisons between dissimilar products, and wanted a permanent label. (133-135)

Ms. Jordan

7. Mrs. Barnett indicated that it would be useful if a brochure accompanied the product, explaining how the noise measurement was taken, e.g., whether ice cubes or spinach were being ground by a blender. (136)

77-8-944-SH
Eric Mankuta
Director of Senior Citizens Community Service Employment Program

Oral Statement

1. Mr. Mankuta described the deleterious effects of noise pollution on the elderly. (140-143)

Response to Question from EPA Panel: Mr. Elkins

2. Mr. Mankuta believed from his own observations that the elderly have greater difficulty sleeping than others and are easily disturbed by environmental noises. (143)

77-8-945-SH
Marion Lockwood
Concerned Citizen

Remarks from the Floor

1. Ms. Lockwood complained about the noise from general aviation, military aircraft, and leaf blowers. (143-149)

77-8-946-SH
James Smith
Concerned Citizen

Remarks from the Floor

1. Mr. Smith expressed support for the labeling program. (151)

2. He felt the label should incorporate some type of comparative information to facilitate the learning process about dBA's. (152)

3. Mr. Smith urged that the subjective quality of the sound be considered in the development of a noise rating through the evaluation of a panel of noise experts. (153)

77-8-947-SH
Robert Haehnel
Concerned Citizen

Remarks from the Floor

1. Mr. Haehnel commented on the hazards of stereo equipment (e.g., speakers and headsets), suggested they be labeled, and recommended a warning statement similar to the one on cigarette packages. (154-155)

2. Mr. Haehnel commented about the excessive noise at rock concerts and recommended some kind of warning at the entrance or on the admission ticket. (157)

77-8-948-SH
Edward Lowe
California State Department of Health

Oral Statement

1. The Office of Noise Control of the California Department of Health supports the EPA in its attempts to alert and inform consumers about the noise characteristics of products. The program will also assist local noise enforcement by providing noise emission ratings on products, according to Mr. Lowe. (164)

2. Mr. Low indicated that there was a conflict between the Background Document and NPRM concerning label content and suggested that Area C contain two statements—one being the range data. the other stating the noise level at which there is interference with speech. He suggested that the "interference message" should use a single dBA value which is at the safe (or lower) end of the range where such effects are experienced. Mr. Lowe also suggested a similar interference message focusing on third-party effects, where the product is likely to have an impact on neighbors, e.g., power lawnmowers and chain saws. (165-166)

3. Mr. Lowe recommended that information be provided which describes the total noise reduction effect when one product is used in combination with another product (e.g., mufflers and motorcycles). (167)

4. The noise rating label or brochure for air conditioners, filter systems for swimming pools, and other products should indicate (1) noise ratings of similar products; (2) expected ratings near the source; (3) ratings under installation conditions; (4) expected ratings at a specified distance from noise source; and (5) noise levels in neighbor's yard. (167)

Responses to Questions from EPA Panel: Ms. Jordan

5. Mr. Lowe described his office's public education activities. (170-171)

77-8-949-SH
Thomas Woods
President of Aural Technology
(Insert into Docket 77-5)

Oral Statement

1. Mr. Woods, manufacturer of protective hearing devices, expressed support for the labeling program and described a case where a person exposed to noise at a recording company suffered extreme hearing loss. (178-179)

2. Mr. Woods expressed concern about the lack of interagency coordination and thus the difficulty of satisfying different regulations. He also expressed concern about the economic impact of the testing costs and objected to the authority of the Administrator to order a compliance audit even when there was no evidence of non-compliance. (180-183)

3. Mr. Woods described the content of his company's proposed brochure. He stated that a pressure-sensitive label which could be peeled off would cost about 3 cents per unit—a reasonable price for a device costing $5.03/unit. The cost of printing the sample brochure he showed to the panel would be less than 1½ cents per unit, based on printing 100,000. Costs for preparing camera-ready copy and graphics would be about $10,000, of which $7,500 would be non-recurring expenses. The label could be done economically, he asserted. His label also contained information on how to properly use the ear protectors. (183-187)

Responses to Questions from EPA Panel: Mr. Thomas

4. Mr. Woods suggested that most companies in the hearing protective device industry would not be reluctant to publish the noise attenuation properties of their products on a label, though he admitted some would hesitate to do so. (190-192)

5. Mr. Woods suggested that the "label" information be required in advertisements directed at industrial consumers of hearing protectors. (193)

6. Mr. Woods said the name of the company which introduces the product into commerce should be on the label and not the original manufacturer. Annual reports represent a means of tracking down the true manufacturer. Mr. Woods responded negatively when asked if he saw any problem in repeating the company's name both on the packaging and on the label. (196-200)

7. Mr. Woods felt the EPA logo should be on the label but noted that this carries with it an explicit endorsement of the validity of the information by EPA. (201-202)

8. He suggested that it is important for EPA to require on the label information about the likely degradation of the attenuation capabilities of hearing protective devices. (204-206)

77-8-950-SH
Dr. Henry Schmitz
Audiologist, Hearing and Speech Center
of Orange County

Oral Statement

1. Dr. Schmitz noted that the American Speech and Hearing Association supports the labeling program. (208)

2. Dr. Schmitz recommended that the program focus initially on products used by children: firecrackers, cap guns, minibikes, air horns, etc. He said high frequency hearing loss in children is well documented and highly disturbing. In his opinion, an aggressive educational program directed at school-age children is a definite "must." (209-210)

3. There are measurement problems with respect to air horns; the angle of incidence and distance from the noise source are key factors. Any labeling requirements should consider factors such as distance and duration in addition to dBA's. According to Dr. Schmitz, accurate measurement of air horn noise requires a storage oscilloscope, probe microphone, and a reflective and reverberant environment. (210-212)

Responses to Questions from EPA Panel: Mr. Kozlowski

4. Dr. Schmitz did not include stereos on his list of dangerous products, because the nature of the hazard depends greatly on how the product is used–for example, distance from loudspeakers and duration of listening are key. He claimed most children are not exposed to rock music long enough to present a serious problem. In sum, the difficulty of taking into account these variables argues against labeling stereos. (214-216)

Mr. Feith

5. Dr. Schmitz recommended that EPA concentrate on children's toys and adopt a hard-line approach, because of the possibility that infants are "more sensitive to noise-induced hearing loss and acoustic trauma than adults." For toys, he suggested the inclusion of a general statement on the label such as: "Beware of the fact that the infant's hearing is very sensitive and can be damaged by toys that make a lot of noise, such as this one." Manufacturers should also indicate the amount of time the toy can be used safely. According to Dr. Schmitz, the danger level for children should be much lower than for adults, i.e., in the area of 65 dBA's. (217-222)

Mr. Thomas

6. Dr. Schmitz mentioned other products posing a serious health hazard for the operator due to their noise emission levels: snowmobiles, tractors, saws, diesel trucks (for mechanics), jack hammers, and shredders. (220-221)

77-8-951-SH
James Adams
Environmental Protection Officer
City of Boulder, Colorado

Oral Statement

1. Mr. Adams described noise ordinances and enforcement procedures in Boulder, Colorado. The city addresses two areas of noise control: vehicular and non-vehicular. For vehicles under 10,000 lbs., 80 dBA is the maximum permissible level, while 88 dBA is the limit for vehicles over 10,000 lbs. (226-229)

2. Mr. Adams described "soft fuzz" enforcement approach, where the city recommends dismissal of summons if the vehicle is brought into compliance. (229-230)

3. Of 3,882 summons issued, 2,950 (76 percent) were for automobiles; 815 (21 percent) fo motorcycles; and 116 (3 percent) for trucks. In 95 percent of the cases, the vehicle was brought into compliance. The vast majority of auto complaints were due to non-stock exhaust system components—glass packs (2,383) and side pipes (481). (230-231)

4. Mr. Adams outlined results of citizen noise surveys conducted in 1969 (221 responses), 1972 (841), and 1975 (1,221). Noise sources eliciting the greatest number of complaints in 1969 were as follows (starting with the worst offender):

   1. Motorcycles
   2. Motorbikes
   3. Barking dogs
   4. Automobiles
   5. Jet planes
   6. Rock Bands
   7. Large trucks
   8. Lawnmowers
   9. Chain saws

   1972 Survey Results:

   1. Motorcycles
   2. Trucks
   3. Automobiles
   4. Barking dogs
   5. Buses
   6. Sirens
   7. Stereos
   8. Aircraft (all categories)

   1975 Survey Results:

   1. Motorcycles
   2. Traffic
   3. Barking dogs
   4. Power mowers
   5. Stereos
   6. Dishwashers
   7. Chain Saws
   8. Vacuum cleaners

   (232-233)

5. Mr. Adams discussed the problem of motorcycle noise. He felt the components of motorcycle exhaust systems should be labeled—both stock and after-sale accessory items. As far as stock equipment is concerned, the manufacturer's I.D. on the label can refer to the company introducing the total product into commerce—for example, Harley Davidson. However, for after-sale accessory items, the original manufacturer's name is definitely needed on the label. (234-235)

6. Mr. Adams commented on the equipment responsible for excessive automobile noise—glass packs and side pipes. (235-238)

7. Mr. Adams prioritized items requiring labeling or noise abatement action (worst is first):

    1. Motorcycle exhaust system
        a. Stock items
        b. After-sale accessory items
    2. Automobiles
        a. Glass packs
        b. Side pipes
        c. Extractors
    3. Barking dogs
    4. Power equipment (chain saws, edgers, etc.)
    5. Home appliances (vacuum cleaners)
    6. Sound power amplifier
    7. Aircraft
        a. Concorde
        b. FAR 36 jets
        c. General Aviation
    8. Large trucks

    (235-239)

8. Mr. Adams made a series of recommendations concerning labels for:

    1. Exhaust system components (mufflers)
        a. Type (glasspack, steel baffles, etc.)
        b. Engine size (displacement, e.g., not to exceed 350 cu. in.)
        c. Use (singly or in pairs)
        d. dBA Reading (_____ @_____ feet)
        e. Life expectancy (number of months)
        f. Penalties for misapplication

    2. Motorcycle exhaust systems
        a. Type (stock systems, after-sale accessory systems, baffle sets)
        b. Engine size and type (for use on: ______)
        c. Life expectancy

    3. Power equipment
        a. Engine size
        b. Engine stroke
        c. Degradation

4. Sound power amplifiers
    a. Warning about hearing damage
    b. Outdoor *versus* indoor use

5. Aircraft
    a. In-cabin noise level

(241-247)

9. Mr. Adams urged the use of dBA for the descriptor in order to further consumer learning. (242)

Responses to Questions from EPA Panel: Mr. Kerr

10. Mr. Adams commented that the label on motorcycles would assist monitoring at the annual state vehicle inspection. In relation to issuing citations, the label might help identify violators but a measurement would still be taken by the officers. (249-50)

11. Mr. Adams agreed with Mr. Kerr that the label for motorcycle exhaust system components should include the name of the manufacturer of the bike on which the muffler would apply. (250)

Mr. Cerar

12. According to Mr. Adams, the majority of violators who have glass packs and side pipes on their automobiles are actually trying to increase their vehicle's noise level. (251)

Mr. Feith

13. Mr. Adams noted that construction equipment noise labels would assist enforcement efforts by telling the officer what level of noise the product should be emitting, and thereby making possible the determination of whether or not a new exhaust system would be one way of reducing noise emissions. (256-257)

Mr. Ricci

14. Mr. Adams suggested a permanent label on mufflers, which should somehow be placed in an area that is clearly visible to an enforcement officer. (258)

Ms. Jordan

15. Mr. Adams described Boulder's public education campaign. (258-260)

77-8-952-SH
Dennis Paoletti
Paoletti/Lewitz/Associations

Oral Statement

1. Mr. Paoletti expressed support for the labeling program and the proposed label, but suggested that a color code be used. (268-269)

2. He expressed support for a permanent label. (270)

3. Mr. Paoletti recommended that the labeling program include as one of its objectives the elimination of false, unsubstantiated noise-related claims of manufacturers. (270)

4. Mr. Paoletti recommended labeling for the following products: typewriters, vending machines, other office equipment, suspended ceilings, fixed wall systems, doors, and windows. He commented that the testing procedures of ASTM suffer from the significant acoustical difference between a laboratory setting and the real office environment. When a component is used in conjunction with other labeling products, Mr. Paoletti noted the Sound Transmission Class value is useless. (217-273)

5. He suggested a phased program of labeling, beginning with the more easily-rated products (e.g., household appliances) and moving later to large, complex pieces of equipment and building materials used in combination with other materials. (274)

Responses to Questions from EPA Panel: Mr. Thomas

6. In relation to acoustic tile and building material, Mr. Paoletti suggested the need for a simplified noise rating directed at consumers and the products they use rather than one for building engineers and designers if the consumer does not need a rating on such material. (278-280)

Mr. Feith

7. Mr. Paoletti commented on the limited utility of manufacturers' ratings of building materials, due to the manipulation of measurement methodologies. He suggested EPA develop a uniform rating method and monitor the testing of products. (284-285)

Mr. Kerr

8. Mr. Paoletti acknowledged the potential benefit of acoustic tile noise-reduction ratings to the individual consumer. (288)

Mr. Kozlowski

9. Mr. Paoletti indicated that testing became "a numbers game," where competitors respond by further manipulating testing conditions to attain a better rating. (289)

77-8-953-SH
Al Perez
Minnesota Pollution Control Agency

Oral Statement

1. Expressed support for the labeling program, commenting that present market does not allow the individual to make intelligent product choices. (290)

2. Mr. Perez noted there are extreme abuses associated with manufacturers' use of noise measurement data. (291)

3. Mr. Perez stressed the importance of guarding against a misinterpretation of the label which equates the EPA logo with certification or approval of the product's noise level. (291)

4. Mr. Perez suggested using dBA's, which can be understood by the public, for the rating on the label, but not "sound pressure level" which is "not contained in the weighting." He indicated that sound power levels require extensive testing facilities and are therefore meaningless to local enforcement officials. His preference is for "sticking to a simple dBA *versus* distance scheme." (292-293)

5. Mr. Perez stated that air conditioners should be a first priority for labeling and expressed support for permanent labels and a color code. (291-293)

6. Mr. Perez commented on the fraudulent activities of testing labs and the tendency for manufacturers to choose ideal products for testing. (296-297)

7. Mr. Perez opposed (1) the provision for 24-hours prior notice before entering manufacturing facilities for compliance testing and (2) the need for a "substantial" infraction before remedial action is taken. He believed these provisions are too lenient. (297)

8. Mr. Perez suggested that to facilitate the selection of products for labeling action, a matrix be developed which organizes products by the following categories:

    1. Those affecting the user only, those affecting the receiver only, and those affecting both.
    2. Stationary *versus* non-stationary sources.
    3. Constant operation *versus* intermittent operation.

    (298)

9. He listed various products presenting noise problems: air conditioners, air-moving equipment, outdoor power equipment, off-the-road vehicles, mufflers, snowmobiles, acoustical materials, doors, windows, toys (e.g., "Raw Power"), sirens, etc. (299-303)

10. He recommended that EPA postpone the difficult issue of product degradation until a later date. (302)

Responses to Questions from EPA Panel: Mr. Kerr

11. Mr. Perez responded that the labels would greatly assist local enforcement efforts. He also said the label should include a statement that reads: "for information purposes only," so there is no implication of an EPA endorsement of the noise level. He emphasized that EPA should assure the label information is accurate, since its logo implies an endorsement of the data's accuracy. (307-311)

12. Mr. Perez commented that if the testing methodology is simple, local officials can assist in monitoring the label ratings for accuracy. (313)

13. He expressed opposition to the idea of a statement on the label in lieu of the EPA logo, which says the rating was determined through a test required by EPA. Also, he felt that a strictly-enforced program with few products was preferable to a weak program requiring labels on numerous products. (313-315)

14. Mr. Perez recommended the labeling of non-powered equipment that serve essentially the same function as powered equipment, when the latter is made subject to labeling. (318)

77-8-954-SH
Mr. and Mrs. Crozier
French Laboratory

Remarks from the Floor

1. Mr. Crozier, a manufacturer of custom-molded hearing protectors, suggested that labeling take into account factors like comfort, hygiene properties, and the appropriate fit. He noted that an attentuation rating based on laboratory subjects is meaningless (and misleading to consumers), since there are variations in the structure of the human ear and protectors will not function properly unless they are built to correspond to these variations. (325-326)

22. Mr. Crozier suggested a statement for the label (or brochure) which emphasizes that the amount of attenuation an individual will derive from the product is based on a proper fit. Factors affecting the "fit" are ear canal configuration, haircut, eyeglasses, etc. (330-332)

3. Throughout Mr. Crozier's discussions with EPA panel members, questions were raised about the validity and reliability of test procedures used by laboratories to rate hearing protectors (e.g., ASA 1-1975). (326-334)

4. Mr. Crozier explained that even if certain information cautions the user about the need for a proper fit, there are serious problems because of the average person's ignorance about what constitutes a "proper fit." (336)

5. Mrs. Crozier suggested there may be a serious problem raised by fraudulent activities of test labs, working in collaboration with manufacturers. (341)

6. Mrs. Crozier cited the problem of an inaccurate label remaining on a product which has undergone repairs affecting its noise properties. (343)

77-8-955-SH
Dr. Michael Kavanaugh
Public Interest Economics Center

Oral Statement

1. Dr. Kavanaugh felt that because of the increasing sales of noise-emitting products and the energy-related movement of persons to densely populated areas, the costs of noise in terms of productivity losses would increase in the future. Also, many on-the-job accidents and their costs can probably be attributed in part to the disruptive, annoying impact of noise. (349-350)

2. Therefore, Dr. Kavanaugh felt that the provision of information about noise via a label, though it may exact some costs, will help to make the market mechanism operate more effectively. (351)

3. Because of the externalities associated with noise, Dr. Kavanaugh recommended a system of taxes that will raise the prices of noisy goods and make the consumer pay the full costs of the product. His position was that a tax system has many advantages over a labeling program. (353-354)

APPENDIX B

INDEX OF WRITTEN DOCKET SUBMISSION AND PUBLIC HEARING TESTIMONY

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090	Esther Schneider	
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103	Mrs. Herbert Layman	
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106	Eilean Brain	
107	Fernando Curth	
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140	Mrs. George (Illegible)	
141	Burt Collins	
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212	Phillis H. Rosenthal	
213	Glover Weiss	
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306	Gerald E. Starkey, P.E.	County of Santa Clara
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334	Marcia MacDonald	
335	Robert S. Jackson, M.D.	Commonwealth of Virginia
336	(Mrs.) Frances Oatley	
337	William J. Stephens	American Rental Association
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358	Rudolf Donninger	Ostereichisches Normungsinstitut
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370	Melvin D. Furman	
371	Mrs. J. Lamb	
372	Joi Anne Garrett	
373	W. A. Hyland	
374	Charles V. Anderson, Ph.D.	
375	Kenneth Truse	
376	Constance (Mrs. George) Bell	
377	Patrick C. Welch	Municipality of Anchorage, Alaska
378	James W. Klimes	Deere and Company
379	Dick Aimy	
380	Roland Westerdal	Bilsom International, Inc.
381	Chet Pitek	
382	John E. Cutshall	
383	Mrs. Josephine (Illegible)	
384	Illegible	

Docket No.	Person	Organization
77-8-385	Jenny L. Armour	
386	J. C. Cornelius	
387	Lois (Mrs. Robert S.) Green	
388	Clay Gerken	
389	Elen L. (Mrs. John) McCamish	
390	Theodore Berland	Citizens Against Noise
391	Illegible	MacMurray Pacific Wholesale
392	Darrell E. Wolbers	J. I. Case
393	High School Students	
394	H. J. Wise	W. H. Brady Company
395	Dianne Spessard	
396	Darlene Davis	
397	Mrs. Lillian E. Burns	
398	Cherie Larson	
399	Charles E. Speiser	
400	Richard O. Thomalla	International Acoustical Testing Laboratories, Inc.
401	David M. Anderson	Bethlehem Steel Corporation
402	Pearl Michaelson	
403	Louis H. Bieler	
404	Fred C. Worthington	
405	Rhona Hellman and Bertram Scharf	Boston University Northeastern University
406	Charles W. Hyer	The Marley Corporation
407	Mrs. Gregory Brill	
408	Lewis K. Hosfeld	
409	Claude Shirai	Japan Machinery Federation
410	Frances J. Babon	
411	Archie L. Spratt	Instamatic Corporation
412	H. F. Renneberg	

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77-8-413	Melvin W. Talbott	
414	Larry Potter	Kentucky Department of Labor
415	Mrs. F. J. Hammond	
416	Stan Dudek	
417	Thomas A. Dobbelane	
418	Dr. and Mrs. Ronald L. Hall	
419	Alberta J. McAlarney	
420	Le Ann Price	
421	Edward J. Reilly	
422	William C. Legg	
423	Frances Szablewski	
424	Francois Louis	Renault, USA
425	P. D. Southgate	
426	L. Lamar Black	
427	Rachel Corbin Riley	
428	Mr. and Mrs. John R. Sheeley	
429	Robert J. Entwisle	Automatic Switch Company
430	M. F. Crabtree	
431	Mrs. Marie S. Griffin	
432	Mrs. James H. Watson	
433	Mrs. Dorothy Chapin	
434	Warren E. Gast	Gast Manufacturing Corporation
435	Mrs. Buddy E. Arbuckle	
436	Mrs. L. J. McNeill, Jr.	
437		Family Finance Class, Fordland High School, Missouri
438	Andrew Aitken	
439	Theonie Lilmore	
440	S. Ditz	
441	Helen M. Schmidt	

Docket No.	Person	Organization
77-8-442	Eunice B. Childs	
443	Louise Wilson	
444	K. O. Tooker	Plasticast Laboratories, Inc.
445	Carol Seamon	
446	Unsigned	
447	The Veresh's	
448	Sam and Laura Robbins	
449	Max O. Biltoft	
450	J. C. and Dorothy Kenyon	
451	Unsigned	
452	Eleanor Culberson	
453	Allison Titus	
454	Unsigned	
455	Mrs. A. William Butler	
456	Mrs. Bill Joe Austin	
457	Mrs. Ralph Moffet	
458	Roger D. Smith	
459	Yvonne Brunstad	
460	Elizabeth McCutchen	
461	Mrs. A. P. Lovato	
462	John L. Warner	
463	Mrs. R. J. Gelhar	
464	Geraldine Greig	
465	Shirley W. Valin	
466	Muriel Cowing	
467	Ann Smith	
468	Unsigned	
469	Frederick G. Crocker, Jr.	Norton Company
470	Mrs. Don E. Van Meter	
471	Mrs. George W. Moore	

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77-8-472	Mrs. Carl Bostick	
473	Shirley K. Jensen	
474	Mrs. Bill MacLean	
475	Mrs. David J. Lukens	
476	Vera Korkus	
477	R. J. Smith	Pearl Harbor Survivors Association
478	Mrs. H. N. Kelly	
479	Mrs. Gretchen Ogle	
480	Kathryn Kennedy	
481	Mr. and Mrs. Anthony P. Burasz	
482	Roy C. Patrick	
483	Mrs. Anthony B. Manera	
484	Illegible	
485	Phyllis A. W. Jamison	
486	Laurence B. Ritter	
487	Paul L. Young	
488	Ursula Stanton	
489	Eliana Woodford	
490	Illegible	
491	W. L. Bolyard	
492	Mrs. Albert E. Montague	
493	M. M. Walker	
494	Ms. Olive H. Kennedy	
495	Mr. Allen D. Slater	
496	Margaret Carrico	
497	E. C. Blackburn	
498	Mrs. Vernon Alvord	
499	S. Smith	
500	Unsigned	
501	Mrs. R. LeRoy Rollins	

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77-8-502	E. Bailly	
503	Mrs. Delbert Christiansen	
504	Dr. Sharon L. Scholl	
505	Pat Newport	
506	H. Malcolm Lewis	Westside Building Materials Company
507	D. Romain	
508	Mrs. Herbert Bergam	
509	W. A. Hyland	Representative, 17th District (Illinois)
510	G. A. O'Brien	
511	M. D. Furman	
512	H. Hoffman	
513	Mrs. J. V. Johnson	
514	Mrs. Thomas Williams	
515	Harry Hughes	
516	William Andersen	
517	A Concerned Citizen	
518	Thomas R. Houck	
519	Allen O. Kundtson	
520	F. Macenko	Environmental Protection of Canada
521	Marilyn Wilkins Samuelson	
522	Ruth Lynn	
523	Edwin W. Abbott	Air Transport Association of America
524	Mrs. Grace Norris	
525	Mrs. Richard Frank	
526	Lawrence H. Hodges	J. I. Case Company
527	Mrs. Charles Koofmans	
528	Kelly Bright	
529	Bruce Nordquist	
530	Mrs. Elizabeth Adamson	
531	Mrs. Patricia Cole Blake	

Docket No.	Person	Organization
77-8-532	Nada Yanshak Brillante	
533	Mr. and Mrs. R. Robert Wells	
534	William Sorber, Sr.	
535	Greg Serafina	
536	Fred Koenig	
537	Mrs. Ruth L. Levine	
538	Mrs. J. W. Hunter	
539	Charles S. Carlyle	
540	Douglas A. Fraser	International Union, UAW
541	Aurella Worrell	
542	Mrs. W. M. Bingham	
543	Mary Wright	
544	Ruth Kuper Levine	
545	Tim Mueller	
546	Thomas D. Rossing	
547	Mrs. C. E. Lighter	
548	M. B. Doyle	International Snowmobile Industry Association
549	Elisabeth G. Garrison	
550	Rhea A. Bahlion	
551	Mrs. A. K. Bruhn	
552	Roy R. Morris	American Rental Association
553	Mrs. Hibbert L. Norton	
554	Carl E. Curet	
555	R. S. Gales	Acoustical Society of America
556	Ervin Poduska	
557	Mary Hochman	
558	Elinor M. Bowman	
559	Douglas A. Fraser	International Union, UAW
560	Unsigned	

Docket No.	Person	Organization
77-8-561	Earl Hardage, Mrs. Irene Hardage Celia Turner, Fred Salter	
562	Joan Stephens, M.A.	
563	Gerald E. Starkey, P.E.	County of Santa Clara
564	Unsigned	
565	Webster and Chamberlain	Power Tool Institute (PTI)
566	John P. Reardon	Air Conditioning and Refrigeration Institute
567	Melvin F. Kuhn	
568	Hon. Elford A. Cederberg	
569	James M. Farrell	
570	Mrs. D. D. Fisher	
571	Mrs. H. Stovall	
572	Larry F. Stikeleather, Ph.D.	
573	James Egger	
574	Jean C. Pressler	
575	David P. Reed	
576	Mrs. Evelyn Neeunas	
577	John L. Bennett	Black and Decker Manufacturing Compan
578	Haywood Clark Smith	
579	Claude A. Frazier, M.D.	
580	M. P. Nevotti	
581	Nora Priest	
582	Mrs. Helen M. Butter	
583	Illegible	
584	Enid M. Johnson	
585	Edward I. Wolf	
586	Unsigned	
587	Don W. Robinson	
588	Unsigned	
589		Whirlpool Corporation

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77-8-590	Roderick T. Dwyer	Outdoor Power Equipment Institute (OPEI)
591	C. F. Newburg	National Association of Truck Stop Operators
592	Sidney J. Flock	
593	Mrs. Susan Alperin	
594	Mrs. C. L. Mercer	
595	Walter Brukwinski	
596	Ruth Moses	
597	Elbert O. Schlotzhauer	
598	James W. Butler	
599	Constance M. Gibson	
600	Charles Painter	
601	Mrs. Forrest M. Sullivan	
602	Mr. Evan A. Johnson	
603	H. Bruce Prillaman	
604	Margaret House	
605	Mars Gralia, D.Sc.	
606	Miss S. Victoria Krusiewski	
607	Martha Murdock	
608	Kathleen C. Harrigan	
609	Mrs. Charles Ladenberger	
610	Larry J. Eriksson	Nelson Industries, Inc.
611	Roy W. Muth	International Snowmobile Industry Association
612	A. F. Barber, Jr.	Town Office Supply
613	Joyce Pacer	
614	Pete Sirois	
615	Patricia H. Robinson	
616	Illegible	
617	Peggy W. Norris	

Docket No.	Person	Organization
77-8-618	Ms. Areta Powell	
619	Edith Mitchell	
620	Mrs. J. C. Brown	
621	E. Bruce Butler	
622	E. G. Ratering	General Motors Corporation
623	Frank E. McLaughlin	Office of Consumer Affairs, DHEW
624	Igor Kamlukin	Briggs and Stratton Corporation
625	A. K. Forbes	Terresearch Limited
626	George Mosher	National Business Furniture
627	Gerald A. Stangl, Ph.D.	The Charles Machine Works, Inc.
628	Miss B. L. Duncan	
629	Guenther Baumgart	Association of Home Appliance Manufacturers
630	E. J. Halter	Industrial Silencer Manufacturers Association (ISMA)
631	William L. Krentz	Owens-Corning Fiberglass Corporation
632	Mr. and Mrs. D. W. Pfeifer	
633	W. C. Painter	Rockwell International
634	Carolina Jenclowski	
635	Miss Marjorie L. Coates	
636	E. Linn	
637	Anthony O. Cortese, Sc.D.	Commonwealth of Massachusetts
638	Mrs. Robert G. Rinehart	
639	R. H. Alexander	
640	Joan L. Mills	
641	Michael G. Garland	The Celotex Corporation
642	Everett A. Plaster	
643	W. G. Schwieder	Ford Motor Company
644	John M. Cowart	
645	Debro Saltzman	
646	Peggy Jenkin	

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77-8-647	Michael W. Blanck	Kodaras Acoustical Laboratories
648	Fred Tabacchi	The Hoover Company
649	John L. Phillips	
650	Madeline Bolbol	
651	George P. Lamb, Jr.	Vacuum Cleaner Manufacturers Association (VCMA)
652	Ralph W. Van Demark	Automotive Exhaust Systems Manufacturers Committee
653	Ms. Patricia H. Robinson	
654	Mrs. Earl B. Hampton	
655	Theodore J. Fister	
656	Lucy D. Strickland	
657	Gene Boyce	
658	Gordon Tapper	
659	Mrs. Gerald N. Plotkin	
660	Richard H. Lincoln	Outboard Marine Corporation
661	Steven K. Allsbruck	
662	Vico E. Henriques	Computer and Business Equipment Manufacturers Association
663	Donna McCord Dickman, Ph.D.	Metropolitan Washington Council of Governments
664	Mrs. R. H. Pfluger	
665	Arthur L. Herold	Power Tool Institute
666	Dr. G. L. Cluff	Tri-Utility Hearing Conservation Program
667	Dale D. Nesbitt	
668	Bernard Balmer	
669	Mrs. E. Dale Petite	
670	Eileene M. Young	
671	David A. Kloepper	HILTI Fastening Systems, Inc.
672	S. L. Terry	Chrysler Corporation
673	Marcus D. Maattala	

Docket No.	Person	Organization
77-8-674	Mrs. Pauline Wanker	
675	Frank J. (Illegible)	
676	Allan M. and Joyce S. Krell	
677	William G. Haley	
678	Alice T. Heinz	
679	Illegible	
680	C. Rodger Blyth	The Maytag Company
681	Unsigned	
682	Mrs. Joseph J. Doyle	
683	Mrs. Joan Mundel	
684	Mrs. Marlin Knight	
685	Mr. and Mrs. Raymond Peeters, Mr. Christopher Peeters, Miss Pamela Peeters, and Mrs. Andrea Peeters Hunt	
686	Helen (Mrs. Thomas) Moon	
687	Mrs. P. G. Perrin	
688	Mrs. Geovanna Gesatti	
689	Charles M. Fisher	
690	Mrs. James C. Warren	
691	Eva Shun Kwiler	
692	John S. Autry	Johns-Manville Corporation
693	Robert Kauffman	
694	William E. Leuchtenburg	
695	Mrs. Edward L. Weimer	
696	R. Wood	
697	George M. Deranen	
698	June Wooster	
699	Robert C. Hume	
700	Benedict G. Breitung	
701	Ira M. Edwards	

Docket No.	Person	Organization
77-8-702	Phyllis J. Sundquist	
703	Alinda Heath	
704	Marcella J. Nickerson	
705	Ross Buhrdorf	
706	Robert Schneider	
707	John P. Reardon	Air-Conditioning and Refrigeration Institute
708	David Owens	
709		Sears, Roebuck and Company
710	Robert A. Heath	Walker Manufacturing
711	Elizabeth Heminway	
712	Gladine Glover	
713	Wayne Marcus	Motorcycle Industry Council, Inc.
714	Harold W. Wolf	
715	Eliot Greb	
716	Mrs. Ed Reynolds, Sr.	
717	W. A. Hyland	
718	Mrs. T. J. Brooks	
719	Howard Swartz	
720	Rubin Helmin (Record of Communication with Don Silawsky)	Husqvarna Company
721	Karla L. Yeager	
722	Lucille (Mrs. Herman) Haarer	
723	Suzanne Badenhop	
724	Julia A. Morse	
725	Mrs. Charles W. Disbrow, Jr.	
726	Janice F. Olson	
727	Delores Crozier	French Laboratory
728	Allen Nelson	
729	John P. Reardon	Air Conditioning and Refrigeration Institute (ARI)

Docket No.	Person	Organization
77-8-730	Caroline Pardoe	
731	Daniel Queen	Daniel Queen Associates
732	Sherrie Sink	
733	Mrs. Betty Westlund	
734	Patricia Moran	
735	Margaret Monji	
736	Elizabeth Bottomly	
737	Gordon L. Cluff, Ph.D.	Tri-Utility Hearing Conservation Program
738	James W. Klimes and R. E. Anderson	Deere and Company
739	Richard Gimer (Record of communication with Henry E. Thomas)	Compressed Air and Gas Institute
740	Arnold W. Rodin	Home Ventilating Institute
741	Charles W. Hyer	The Marley Organization, Inc.
742	Douglas A. Fraser	International Union, UAW
743	Frank S. Fitzgerald Assistant General Counsel	Noise Control Products and Materials Association
744	William V. Skidmore. Assistant General Counsel for Legislation	General Counsel of the Department of Commerce
745	Frank E. Wilcher, Jr.	Industrial Safety Equipment Association

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903	Theodore Berland	Citizens Against Noise
904	Mr. Stuart Low	Flents Products Company
905	Roy W. Muth	International Snowmobile Industry Association
906	Ernest Scott	Kirby Vacuum Cleaners
907	Wesley E. Schwieder Richard Genik Herbert Epstein	Ford Motor Company
908	Howard W. Burnett	American Rental Association (ARA)
909	Daniel Queen	Daniel Queen Associates
910	Richard Gimer	Compressed Air and Gas Institute (CAGI)

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911	Bruce Anderson	Office of Senator Dick Clark
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913	Dr. Charles Anderson	American Speech and Hearing Association
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77-8-917	Vern Kamps	American Association of Retired Persons
918	Willis Lueders	Transparent Film Workers Union
919	Pat Dillan	United Auto Workers
920	Ed Harwick	United Auto Workers
921	Ed Ryan	American Association of Retired Persons
922	Mary Pickett	Iowa State University Faculty
923	Tanya Wesley	
924	John Harris	J. I. Case Company
925	Eldon Colton	City of Cedar Rapids
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933	Sheila Sidles	Iowa Consumers League
934	Pam Kidd	
935	Steve Keller	
936	John Kammerer Raymond Bowman	Amana Refrigeration
937	Kenneth Truce	
938	Dan Dykstra	
939	Lee Fisher	Grant Wood Area Education Association

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77-8-940	James Shone	Citizens Against Noise
941	Robert Friese	San Francisco Task Force on Noise Control
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942	Gerald E. Starkey	Santa Clara County
943	Judy Barnett	
944	Eric Mankuta	Senior Citizens Community Service Employment Program
945	Marion Lockwood	
946	James Smith	
947	Robert Haehnel	
948	Edward Lowe	California State Department of Health
949	Thomas Woods	Aural Technology
950	Dr. Henry Schmitz	Hearing and Speech Center of Orange County
951	James Adams	City of Boulder, Colorado
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PART III

PERSPECTIVES ON THE PROPOSED NOISE LABELING PROGRAM: THE GENERAL PUBLIC AND INDUSTRY

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INTRODUCTION

In order to develop the final regulation and assess the public response to the proposed EPA noise labeling program and the elements of an effective noise label, the Agency undertook three different actions to gauge public sentiment, one of which also solicited the views of industry. The results are presented in Part III. The first project involved the tabulation of public docket comments reflecting either support or opposition for the proposed noise labeling program. The second was a nationwide telephone survey conducted by an independent private contractor. The third consisted of two elements; a door-to-door public survey, and the laboratory assessment of necessary label content through the use of focus group discussions.

SECTION 1: ANALYSIS OF PUBLIC DOCKET COMMENTS

SUPPORT VS. OPPOSITION

In order to determine the level of support among commenters for the noise-labeling program as proposed, each comment submitted to the public docket - either written or oral - was evaluated in terms of its position on the proposed product noise labeling program. Of a total of 751 comments, which represented somewhat fewer individuals due to multiple docket entries per person, there were 652 cases where a pro or con position could be identified.* For analytical purposes the comments were separated into two groups: industry and non-industry. The results for non-industry comments are presented in Table 3-1.

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*Entries 687 through 720 and 731 through 744 were received too late for inclusion in the analysis.

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Table 3-1
Percentage of Non-Industry Commenters with Different Positions on EPA Noise Labeling and Abatement Activities[1]

		With Explicit Position on Labeling	With Explicit or Implied Position on Labeling	With Explicit or Implied Pro-Noise Control Position[2]
A. Supported Labeling	34.0% (205)	A	A	A
B. Supported Labeling, Not Abatement	0.3% (2)	B → For Labeling 78.9% (269)	B	B
C. Supported Labeling and Abatement	10.3% (62)	C	C → For Labeling 82.3% (401)	C → 88.0% (530)
D. Supported EPA Noise Abatement	18.8% (113)			D
E. Supported Abatement, Not Labeling	2.7% (16)	E	E	E
F. Complained about Noise Emitted by a Product—Implied Support for Labeling and/or Abatement	21.9% (132)	→ Against Labeling 21.1% (72)	F	F
G. Opposed to Labeling	9.3% (56)	G	G → Against Labeling 17.7% (86)	
H. Opposed to EPA Noise Abatement	2.7% (16)		H	
TOTAL	100.0% (602)	100.0% (341)	100.0% (487)	

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[1] Non-Industry = private citizens, public officials, academicians, small non-manufacturing businesses, etc.

[2] No percentage was calculated for anti-noise control position, because some labeling oponents may have favored emission regulations, though not stating this explicitly.

The differences in scope of support were addressed by categorizing the specific comments into the classes shown below, most of which are self-explanatory. Clarification is necessary in certain instances, however. Individuals described as "supported EPA noise abatement" for the most part either said specifically they supported direct abatement actions such as emission regulations, or else expressed support in general terms such as "keep up the good work" or "I support your Agency's efforts in abating noise." Many individuals falling in this second group probably supported the labeling program, but because they did not state so explicitly, they were not classified as such.

A significant number of commenters simply complained about the excessive noise emitted by a product. Because some of these comments could have been mailed in response to news releases which asked for suggested candidates for noise labeling, it is likely that the overwhelming majority of these persons also supported labeling, although they were not initially classified in this manner. In relation to comments classified as "opposed to EPA noise abatement," it could not be ascertained from the letters themselves if the people were opposed to product noise labeling specifically.

In the second column of the table, the data are collapsed into a dichotomy, based on those persons who made it clear (or explicit) that the labeling program was the target of their evaluations. The strong public support for the program among non-industry commenters is manifested by the 78.9 percent in favor of labeling, as contrasted with 21.1 percent against labeling. When product complaints (Category F) are added to pro-labeling comments due to their implied support - and general opposition to EPA noise abatement (Category H) is combined with specific opposition to labeling - there is a slight increase in the percentage difference (i.e., 82.3 percent in favor of labeling versus 17.7 percent against). The final column gives the percentage of non-industry respondents who implied or explicitly expressed support for some kind of EPA noise control activity - 88.0 percent. While the docket does not provide a representative sample from which one can deduce the actual level of support in the nation at-large, these data do afford some evidence of public support for noise labeling.

Persons opposed to labeling or noise abatement most often cited increased costs as the main reason for their opposition (Table 3-2). Other criticisms were that the regulations restricted the individual's freedom to make his own decisions; that labeling was not going to influence purchasing decisions; that the free enterprise system will produce quieter products without governmental intervention if the public wants them; and that resources should not be spent on noise labeling when there are more important national priorities.

Table 3-2

Percentage of Opponents (Items G and H from Table 1) Citing Different Reasons[1]

Costs To consumers (21) To taxpayers (10)[2]	52.8%(38)
Infringement of Individual Freedom	20.8%(15)
Ineffective Means of Achieving End	19.4%(14)
Free-market Solution is Preferable	16.7%(12)
Other Problems Occupy a Higher Priority than Noise Pollution	4.2%(3)
Miscellaneous	5.6%(4)
No Reason	16.7%(12)

[1] Sum of percentages is greater than 100 percent because many respondents gave multiple reasons for opposition.

[2] Many respondents just mentioned "costs," not specifying the impacted party, while others based their opposition both on "costs to consumers" and "costs to taxpayers." Therefore, the N for these two latter response categories does not equal 38.

Several persons who supported noise abatement but not labeling complained that EPA should focus on products such as cars, trucks, and especially motorcycles and not worry about household appliances, which they associated with the labeling program (42, 48, 72, 90, 102, 115, 194, 277, 483, 568). Two commenters (684, 723) that questioned the labeling program's effectiveness, reported the results of surveys which demonstrated the low importance of a product's noise properties (as compared to other factors) in the eyes of the consumer.

A representative of an industry (924), potentially affected by the proposed product noise labeling program, provided a counter argument to the latter point at the public hearing held in Cedar Rapids, Iowa. His testimomy indicated that the noise factor may only become important in the marketplace when there exists noise level data that could be used to compare products, and when an industry's marketing divisions begin to advertise products on this basis.

Individuals favoring the labeling program often based their support on its utility for making informed consumer decisions and the belief it would force manufacturers to design quieter products. In addition, seven commenters endorsed the labeling program for the assistance it would provide local noise control officials in their enforcement efforts. Five of these comments came from state and local officials themselves, representing the States of California, Massachusetts and Minnesota and the cities of Boulder, Colorado, and Cedar Rapids, Iowa (948, 637, 953, 951, and 925, respectively), and two from representatives of Citizens Against Noise (903, 940). These comments emphasized the utility of accurate product noise ratings established under the EPA program in comparing products against the noise standards of local ordinances.

In contrast to the widespread support for the program among the general public, the vast majority of industry spokesmen expressed opposition to EPA-administered product noise labeling (Table 3-3). Fifty percent of the industry respondents directly

Table 3-3

Percentage of Industry Commenters with Different Positions on EPA Noise Labeling*

			With Explicit or Implied Position on EPA Product Labeling
A.	Supported Labeling	8.0% (4)	For Labeling 12.0% (6)
B.	Supported Labeling Regulation, with Criticisms	4.0% (2)	
C.	Supported Voluntary Labeling	10.0% (5)	Against Labeling 88.0% (44)
D.	Offered Major Criticisms of Regulations without Directly Stating Opposition	26.0% (13)	
E.	Opposed to Labeling	50.0% (25)	
F.	Opposed to Labeling but Supported Emission Regulations	2.0% (1)	
	Total	100.0% (50)	

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*Industry = manufacturers and trade associations.

stated their opposition; another 26 percent implied opposition by offering major criticisms of the proposed regulation; and 10 percent indicated their opposition by expressing support for voluntary labeling. (Of course, Category C does not reflect the total level of industry support for voluntary labeling, since comments were first classified on the basis of direct support *versus* opposition. Of the many persons who expressed support for voluntary labeling, Category C contains only those few individuals who, at the same time, did not state their opposition to EPA product labeling.)

SECTION 2: GENERAL AUDIENCE SURVEY

INTRODUCTION

In order for the Environmental Protection Agency to adequately implement its Congressional mandate under Section 8 of the Noise Control Act of 1972 (86 Stat 1234), it felt that a statistically correct study should be performed to know the public attitude toward noise and the proposed product noise labeling. The Agency conducted a nationwide telephone survey through an independent contractor to obtain data from which the Agency could better assess: the public perception of noise; the extent to which the public is impacted by noise; which products are bothersome; to what extent noise is a factor in purchase decisions; and the form in which noise information should be available so that the public can use it in the purchase decision.

The sample for the survey was drawn using carefully prescribed procedures to minimize bias and insure that the results obtained were representative of consumers, and 608 adults were contacted.

This section will describe in detail the survey methodology, the data collection procedures, the results of the survey and the conclusions of the study.

SURVEY METHODOLOGY

A major advantage of telephone surveys is that geographic dispersion of respondents can be maximized. This makes it possible to include all geographic areas of the country as well as urban and rural groups within each major area.

In conducting a telephone survey, it is important to select the sample of telephone numbers in a way that will reduce the possibility of bias. To select a sample of numbers from telephone directories directly is not appropriate because many people have unlisted numbers, which would introduce a potential source of bias. To counteract this problem, random digit dialing was used. For this study, the most efficient method of random digit dialing consisted of two steps:

- First, a random sample of telephone numbers was drawn from a master data file maintained by Donnelley Marketing (a division of Reuben H. Donnelley Corporation) of all residential telephone numbers for the entire nation, including Alaska and Hawaii. Every nth number was taken off this file.

- Second, because this data file does not include unlisted numbers, the last two digits of the sampled numbers were randomized. This was done by retaining the first eight digits of each number (e.g., 703-893-52XX) and selecting from a table of random numbers two-digit suffixes to complete the number.

Since the last two digits of each were generated at random, a variety of outcomes was possible. The more frequently occurring were:

- Non-working numbers
- Business
- Busy/no answer
- Household
- Coin telephone booth
- Institutional number (hospital, dormitory, etc.)

It is apparent from this list that in order to complete a specified number of interviews, more numbers must be dialed than interviews needed. The number of completed interviews is determined by the error one is willing to tolerate in the results. As Table 3-4 shows [1], a sample size of 600 would provide results with a 4 percent tolerated error at the 95 percent confidence level. This

Table 3-4
Simple Random Sample Size for Several
Degrees of Precision [1]

Tolerated Error (percent)	Confidence Limits	
	95 Samples in 100	99 Samples in 100
1	9,604	16,587
2	2,401	4,147
3	1,067	1,843
4	600	1,037
5	384	663
6	267	461
7	196	339

was assumed to be satisfactory for this study. In order to obtain 600 households, approximately 2-1/2 times that number were selected for calling. Thus, approximately 1,500 numbers were sampled with the last two digits randomized.

Once a household was dialed, there had to be a method of determining who in the household was to be interviewed. This had to be done in advance to insure that there was no bias in favor of people who are home more often or are more willing to be interviewed. Several criteria were set. First, it was decided that only one adult (age 18 and over) would be interviewed in each household. This was done to avoid possible bias due to clustering. Second, a procedure for selecting the one person to be interviewed was developed. This included asking (1) how many adults were in the household and (2) how many men were in the household. By using a set of four tables, it was possible for the interviewer to select the specific person to be interviewed. A modification of this technique was applied as described by Bryant [2] in order to correct for a tendency for males to be harder to contact than females. This modification involved repetition of the first three tables so that males were slightly over-sampled.

Thus, once a household was reached, the interviewer selected the appropriate table, asked the number of adults and males, and determined from the table who should be interviewed. No substitutions were allowed.

DATA COLLECTION

The interviews were conducted by staff selected and trained specifically for the noise labeling survey. A total of 21 interviewers were used. Each was required to attend a four-hour training session which covered such things as the purposes and background of the project, general interviewing techniques, the data collection instrument and other elements specific to the project. Each was required to conduct practice interviews and was critiqued.

There were three shifts of interviewing per day, with calling from 8:30 a.m. until 9 p.m. at night (local time for the number called).

Three attempts were made to reach a number. If after three tries no answer was obtained, the number was dropped and no further attempts made. In order to maximize the probability of reaching someone, one of the three calls was made during the day (before 6 p.m. local time Monday through Friday) and two at night (after 6 p.m., or Saturday and Sunday).

If a household was reached, but the person to be interviewed was not there, an attempt was made to determine the best time to call back in order to obtain an interview. Once a household was identified, three additional calls were made in order to reach the respondent.

Each shift consisted of a maximum of eight interviewers and at least one supervisor. The supervisor checked every form upon completion of an interview to insure that there were no missing data. Introduction and interview procedures were closely monitored to insure that interviewer bias was minimized. The results of the dialing are shown in Table 3-5. Of the 1,580 numbers dialed, a total of 987 were to a residence of some type (62.5 percent). From these households reached, 608 completed interviews were obtained (38.5 percent). The actual data collection occurred between December 21 and 29, 1977. No calls, however, were made on December 24, 25, or 26.

Table 3-5
Result of Dialings

	N	%
Busy/No answer after three calls	188	12.0
Dead line	26	1.6
Non-working numbers	264	16.7
Business	101	6.4
Language barrier	14	0.9
Other communication problem (bad lines, etc.)	19	1.2
Refusals	282	17.8
Respondent not available	64	4.1
Other (no adults, not a private residence)	14	0.9
Completed Interviews	608	38.5
	1,580	100.1

Once the appropriate respondent was contacted, the interviewers asked a series of questions using a questionnaire designed specifically for this study, based on the information needed by EPA. A copy of the questionnaire is shown in Appendix A of this Part.

Major areas covered by the questionnaire included information about:

- The public's perception of noise as an irritant.
- Products commonly considered to be bothersome because of noise.
- Major criteria in the selection of products for purchase, including noise.
- Willingness to pay for quieter products.
- The public's desire for information about the noise levels of products.
- The public's attitude toward noise labeling.
- Knowledge levels regarding noise related terms.

The results of this survey are presented in the following section.

RESULTS OF THE INTERVIEWS

A total of 608 completed interviews were obtained. These included both males and females from all regions of the United States. The responses indicate some awareness of noise problems and general approval of government efforts to label noise producing products. The data obtained in these interviews are described below. The questionnaire used to collect these data is included in Appendix A to this Part.

The Sample

The respondent sample was almost equally divided between males and females. Table 3-6 shows the breakdown by sex. This is quite close to the 1970 census findings of approximately 49 percent males and 51 percent females in the general population.[3]

Table 3-6
Respondent Sex

	Number	%
Male	300	49.3
Female	308	50.7
	608	100.0

For the purposes of analysis the sample was also divided into regions with approximately equal numbers of respondents in each. The regions were defined as follows:

East	Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia.
South	North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.
Midwest	Ohio, Indiana, Kentucky, Illinois, Michigan, Wisconsin, Iowa, and Missouri.
West	Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Colorado, New Mexico, Arizona, Utah, Wyoming, Montana, Idaho, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

These designations were meant to produce a reasonably equal distribution of respondents across regions. Table 3-7 shows the distribution of respondents obtained using these categories.

Households were contacted for interviews in all 50 states, and the 608 interviews include respondents from 48 states. No interviews were obtained in Nevada or Alaska where only a very few telephone numbers were called.

The sample thus can be considered to be a good nationwide distribution, fairly closely matching certain general population characteristics.

Table 3-7

Distribution of Respondents by Region

	Number	%
East	163	26.8
South	143	23.5
Midwest	159	26.2
West	143	23.5
	608	100.0

Questionnaire Responses

As stated above, the questionnaire attempted to obtain information in a number of areas related to the noise labeling program. The results are presented below, by topic, and differences in responses by sex or by region of the country are indicated whenever they occur.

o General Irritation Due to Noise.

The first question asked of respondents was whether or not they were irritated by noisy products or appliances. About forty percent of the respondents replied affirmatively to this question, as shown in Tables 3-8a and b. Females were slightly more likely to respond affirmatively than males. There were no significant differences by region of the country. These responses seem to indicate that noise is a major concern for a substantial proportion of the population.

Table 3-8

Perception of Noise as an Irritant

Question: Do you ever feel uncomfortable or irritated by noisy products or appliances in your home, your neighborhood, or your place of work?

(a)

	Number			Total%
	Male	Female	Total	
Yes	116	144	260	42.8
No	184	164	348	57.2
	300	308	608	100.0

(b)

	Number					Total %
	East	South	Midwest	West	Total	
Yes	68	56	68	68	260	42.8%
No	95	87	91	75	348	57.2%
	163	143	159	143	608	100.0%

For respondents who replied that they were irritated by noise, additional questions were asked about the types of products that bothered them.* As Table 3-9 shows, a majority of the 260 respondents who were asked felt that the most bothersome noisy products were those used by someone else.

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*See the questionnaire in the Appendix for the skipping patterns called for by specific item responses.

Table 3-9

Source of Irritating Noise

Question: Are the most bothersome noisy products those that you own and use, or those used by someone else?

	Number	%
By me	76	29.2
By someone else	146	56.2
Both	38	14.6
	260	100.0

o Factors in Purchase Decision.

Several questions were asked to try to assess the importance of noise as a criterion in purchase decisions. One question which relates to this is whether or not consumers believe that different brands of a given product create different amounts of noise. As Table 3-10 shows, a large proportion of respondents believed that there are differences between brands, but many others did not believe this to be true or were not sure.

Table 3-10

Perceived Brand Differences in Noise Levels

Question: Do you think that there is much difference in the amount of noise that different brands of products such as vacuum cleaners or chain saws create?

	Number			Total %
	Male	Female	Total	
Yes	151	130	281	46.2
No	103	108	211	34.7
Don't Know	41	67	108	17.8
Depends on Product	5	3	8	1.3
	300	308	608	100.0

There were significant differences between males and females on this question, with males being more likely than females to believe that there are differences between brands.

In a series of questions aimed at determining the relative importance of various criteria in consumer purchase decisions, the quietness of the operation of a product or appliance was rated as very important by over 40 percent of the respondents (Table 3-11). Of the criteria asked about, the most important to consumers appears to be the cost of operation. A majority of the respondents considered this to be "very important."

Table 3-11

Importance of Different Criteria in Purchase Decision

Question: Usually, in buying an appliance or product do you consider (price)(brand name)(cost of operation)(quietness of the operation) to be very important, somewhat important, or not very important?

	Price		Brand Name		Cost of Operation		Quietness of Operation	
	Number	%	Number	%	Number	%	Number	%
Very important	281	46.2	255	41.9	357	58.7	259	42.6
Somewhat important	206	33.9	216	35.5	129	21.2	164	27.0
Not very important	79	13.0	95	15.6	102	16.8	125	20.6
Depends on product	42	6.9	42	6.9	20	3.3	60	9.9
	608	100.0	608	99.9	608	100.0	608	100.1

In another attempt to determine whether or not the quietness of products is important to consumers, a question was asked about how much extra they would be willing to pay for a quieter vacuum cleaner. Table 3-12 shows that the respondents indicated a general willingness to pay a higher price for a substantially quieter vacuum cleaner. However, there were 38 percent (214 of 558) of the respondents to this item who stated they would pay nothing extra for a vacuum cleaner that was three-fourths as loud.

Table 3-12

Willingness to Pay for Quieter Products

Question: If you were planning to buy a vacuum cleaner and the average cleaner cost about $70, how much extra would you be willing to pay, in dollars, for a vacuum cleaner that was only

	Mean
Three-fourths as loud (N = 558)	$13.39
Half as loud (N = 552)	15.86

Refusals to respond equal 50 and 56, respectively.

The actual dollar amount that respondents stated were willing to pay is very much tied to the base price of $70. The mean dollar amounts, however, work out to approximately 19 percent and 23 percent of the base purchase price, showing definite flexibility on the part of consumers to pay extra for features they deem desirable.

o Desire for Noise Control and Noise Labels.

Two different factors which the Agency must take into account when considering a product for regulation are whether to set levels on the maximum amount of noise the product may emit and/or whether to label the product as to the amount of noise it does produce.

The responses to a question on government noise control are shown in Table 3-13a, b. A large majority of respondents felt that the government should set noise levels for some products. There were significant differences between males and females on this question. Although equal numbers of males and females were in favor of government standards, among those not in favor, males were more likely to report disapproval and females to respond that they didn't know if the government should set such standards. Respondents from the West showed the smallest percentage in favor of government standards, both in objecting to the standards and in being the most definite about their answers (i.e., very few "don't knows").

Table 3-13

Desire for Government Noise Control

Question: Do you think the government should set noise levels for some products?

(a)

	Number			Total %
	Male	Female	Total	
Yes	199	199	398	65.6
No	80	61	141	23.2
Don't Know	20	48	69	11.3
	299	308	607	100.0

(b)

	Number					Total %
	East	South	Midwest	West	Total	
Yes	128	89	93	88	398	65.6
No	21	34	37	49	141	23.2
Don't Know	13	20	29	6	68	11.2
	162	143	159	143	607	100.0

The reasons given by those people not in favor of the government setting noise levels (as obtained through the previous question) are shown in Table 3-14. The replies are grouped according to a few major classifications. The most frequent response was that the government already has too much control. Other frequently mentioned reasons were that such controls are not needed and that the consumer should regulate noise levels through purchases, and allow the effects of the free market to encourage manufacturers to reduce noise.

Table 3-14

Reasons for Government Not to Set Noise Levels

Question: Why should the government not set noise levels?

	Number	%
Too much government control	58	41.1
Noise controls not needed	34	24.1
Consumers should regulate	33	23.4
Not feasible	7	5.0
Would increase prices	3	2.1
Could give no reason	6	4.3
	141	100.0

The respondents to the survey were very strongly in favor of information on the amount of noise a product makes being made available to consumers before purchasing (Table 3-15).

Table 3-15

Desire for Noise Information

Question: Do you think consumers should be given information about the amount of noise a product makes before they buy it?

	Number	%
Yes	528	86.8
No	57	9.4
Don't know	23	3.8
	608	100.0

The 528 respondents who indicated that they would want such information were asked two further questions about the source of this information. Table 3-16 shows that the majority of replies were in favor of the manufacturer supplying the information, which in essence is what the EPA program proposed. The most frequently mentioned other sources for the information were independent testing laboratories and publications such as Consumer's Report. Male respondents were more likely than females to cite some other source, while females primarily felt the manufacturer should supply the data.

Table 3-16 also shows that the majority of respondents felt the EPA would provide more accurate information than the manufacturer. This could imply support for the EPA program as proposed, since it would require the manufacturer to supply accurate and verifiable noise information, and EPA's enforcement procedures would assure that manufacturers comply with the requirements.

Three other questions which exhibit general audience support for noise labeling are shown in Tables 3-17, 3-18 and 3-19. A large majority of respondents report that they would like to see a noise label placed on products and that they would use such a label in their purchase decision; and a majority state that they would want the label even if it increased the price.

While a majority of all respondents reported that they would still want a noise label even if it increased the price of a product, there were differences between males and females in their responses to this question. Among the respondents who did not reply affirmatively to the question, males were more likely to state that they definitely would not want the label if it caused a price increase, while females were more likely to reply that it would depend upon the amount of the price increase. Substantial proportions of both groups are obviously concerned about the economic impact of the labels on purchase prices.

Table 3-16

Sources of Noise Information

Question: Do you think this information should come from the government, from the manufacturer, or from some other source?

	Number			Total %
	Male	Female	Total	
The government	35	42	77	14.5
The manufacturer	157	190	347	65.5
Other	59	31	90	17.0
Don't know	6	10	16	3.0
	257	273	530	100.0

Question: Which source do you think would provide more accurate information about the noise level of a product: the manufacturer or the Environmental Protection Agency?

	Number	%
The manufacturer	165	31.3
The EPA	317	60.0
Neither	17	3.2
Both	29	5.5
	528	100.0

Table 3-17

Desire to Have Label Placed on Products

Question: Would you like to see a label placed on products to show how much noise they make?

	Number	%
Yes	471	77.5
No	137	22.5
	608	100.0

Table 3-18

Potential Use of Noise Labels

Question: If a noise label were provided, would you be likely to use the information in your purchase decision?

	Number	%
Yes	464	76.3
No	92	15.1
Depends on product	52	8.6
	608	100.0

Table 3-19

Willingness to Pay for the Label

Question: If putting a label on products to show how much noise they make would increase the price, would you want the information?

	Number			
	Male	Female	Total	Total %
Yes	155	171	326	53.6
No	83	61	144	23.7
Depends on Price Increase	46	69	115	18.9
Other	16	7	23	3.8
	300	308	608	100.0

o Label Characteristics.

Two questions were asked to assess consumer preferences about particular characteristics of the noise label. Only those 516 respondents who had indicated a possible willingness to use the labels were asked these questions (see Table 3-18, those responding "Yes" or "Depends on Product"). As can be seen in Table 3-20, the majority of replies were in favor of some type of permanently affixed label on the product. A hang tag was seen as somewhat acceptable, but very few respondents favored a single product display sign. Several respondents remarked that an acceptable form of a permanent label would be one which was pasted onto the product but which could be removed by the consumer after purchase.

There was less agreement among respondents when asked about the type of rating scale they would prefer on the label (Table 3-21). The most acceptable alternatives were a number scale (26.9%) or a word description (40.3%). The preference for a word description may indicate that some word explanation would be desirable if a number scale is used.

Table 3-20

Preferences for Type of Label

Question: If products were labeled to show how much noise they make, would you prefer the label to be:

	Number	%
A hang tag attached to each product	131	25.4
A permanently affixed label on the product	308	59.7
A single sign as part of the product display, but not attached to each item	41	7.9
Depends on the product	36	7.0
	516	100.0

Table 3-21

Preferences for Rating Schemes

Question: I'd like to read to you four different ways of indicating on a label amounts of noise. After I have read all four, please indicate which approach you would prefer.

	Number	%
A star scale where four stars meant a very quiet product	74	14.3
A number scale where a low number meant a very quiet product	139	26.9
A color-coded label where a green symbol meant a very quiet product	60	11.6
A word description which said "quiet" or "noisy"	208	40.3
No preference	35	6.8
	516	99.9

o Knowledge of Noise Terminology.

The choice of a rating scheme may be based on a variety of scientific criteria, but even if acoustical engineers can determine the appropriate noise measure to be used in rating each product, the noise labeling program cannot be successful unless the consumer can understand the rating. In order to estimate the scientific sophistication of consumers in the area of noise, a question was asked to determine the familiarity of respondents with the term "decibel." The same question was asked about the terms "therm" and "watt" in order to provide some comparative data.

Table 3-22 shows that a majority of respondents were able to correctly identify "decibel" as a measure of noise level, a slightly higher percentage than knew the term "therm," but far below the familiarity level of the term "watt." The percent correctly identifying "decibel" may be a somewhat biased estimate upward because of the fact that this question was asked last and respondents could have eliminated alternatives in their mind based on their previous answers. Also, the respondents knew the survey was about noise and so this could have served as a prompter in guessing.

Table 3-22
Knowledge of Rating Terms

Question: Can you tell me if a (therm) (watt) (decibel) is a scientific measure of electricity, heat, noise, or gas?

	Therm		Watt		Decibel			
	Number	Total %	Number	Total %	Number	Total %	Number Male	Number Female
Correct response	289	47.5	545	89.6	317	52.1	189	128
Incorrect response	48	7.9	14	23.0	35	5.8	11	24
Don't know	271	44.6	49	8.1	256	42.1	100	156
	608	100.0	608	100.0	608	100.0	300	308

There were differences between males and females with significantly more males (189 of 300 = 63%) knowing the term "decibel" than females (128 of 308 = 41.6%), this may indicate a need for particular consumer education to be aimed at females to heighten their familiarity with noise terminology.

After the above questions on terminology were asked, respondents were told that a decibel is a measure of noise level and then asked to guess how loud a vacuum cleaner and a lawnmower are, given that city traffic is about 75 decibels and a quiet whisper is about 20 decibels. Table 3-23 shows the results of this question. The mean values are fairly close to the actual values of approximately 75 decibels for vacuum cleaners and 90 decibels for lawnmowers. The range of values was quite large, however; for vacuum clearners the guesses ranged from one decibel to 400 decibels, with only 139 cases (26.5 percent) in the range 65 to 85; for lawnmowers the guess ranged from two decibels to 600 decibels, with only 140 cases (26.6 percent) in the range 80 to 100.

Table 3-23

Estimates of Decibel Levels

Question: A decibel is a measure of noise level. City traffic is usually about 75 decibels, while a quiet whisper is about 20 decibels. Can you guess how loud

	Mean
a vacuum cleaner might be? (N = 524)	77.98 decibels
a lawnmower might be? (N = 527)	87.97 decibels

Refusals to guess 84 and 81, respectively.

o Products.

Another goal of this survey was to determine which products consumers felt were irritants and which products they felt should be labeled. The respondents were specifically asked about vacuum cleaners, chain saws, and air conditioners. Table 3-24 shows the

Replies from those respondents who had indicated that they were bothered by noise, but who had not already mentioned that they were bothered by these particular products. For this reason the number of respondents varies, and the number of persons who actually indicated displeasure with these products is higher. There were significant differences in the responses of males and females for vacuum cleaners with 30.7% (32 of 104) of the males bothered by noise from vacuum cleaners, while 18% (24 of 133) of the females responded that they were bothered. Likewise, 28% (32 of 114) of the males were bothered by noise from air conditioners, while 15.8% (22 of 139) of the females were similarly bothered.

Table 3-24

Particular Products as Irritants

Question: Are you ever bothered by noise from (vacuum cleaners) (chain saws) (air conditioners)?

	Vacuum Cleaners				Chain Saws				Air Conditioners			
	Number			Total %	Number			Total %	Number			Total %
	Male	Female	Total		Male	Female	Total		Male	Female	Total	
Yes	32	24	56	23.6	33	42	75	30.0	32	22	54	21.3
No	72	109	181	76.4	78	97	175	70.0	82	117	199	78.7
	104	133	237	100.0	111	139	250	100.0	114	139	253	100.0

Respondents who had indicated in the first question asked of them that they were bothered by noisy products or appliances were asked to name the products that bothered them the most. These 260 respondents named an average of 2.01 sources of noise each, encompassing some 80 different categories. Table 3-25 shows the number of times each category was mentioned.

Table 3-25

Products Whose Noise is Irritating

Question: What are some of the products whose noise bothers you the most?

(N = 260)	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Major Household Appliances	131	25.0	50.4
Washing machine	31	5.9	11.9
Dryer	12	2.3	4.6
Dishwasher	41	7.8	15.8
Refrigerator	23	4.4	8.8
Freezer	2	0.4	0.8
Self-cleaning oven	1	0.2	0.4
Humidifier	2	0.4	0.8
Air conditioner	10	1.9	3.8
Furnace	7	1.3	2.7
Space heater	2	0.4	0.8
Small Household Appliances	88	16.8	33.8
Appliances	11	2.1	4.2
Vacuum cleaner	27	5.2	10.4
Hairdryer	7	1.3	2.7
Blender	14	2.7	5.4
Mixer	1	0.2	0.4
Food processor	1	0.2	0.4
Ice crusher	2	0.4	0.8
Pressure cooker	1	0.2	0.4
Coffee pot	3	0.6	1.2
Can opener	6	1.1	2.3
Garbage disposal	5	1.0	1.9
Clock	2	0.4	0.8
Window fan	4	0.8	1.5
Exhaust fan	4	0.8	1.5

Table 3-25 (Continued)
Products Whose Noise is Irritating

	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Power Tools	38	7.3	14.6
Power tools	9	1.7	3.5
Drills	3	0.6	1.2
Lawnmowers	19	3.6	7.3
Chain saws	5	1.0	1.9
Leaf machine	1	0.2	0.4
Air compressor	1	0.2	0.4
Machinery	35	6.7	13.5
Machines	15	2.9	5.8
Vibrating machinery	2	0.4	0.8
Industrial machinery	11	2.1	4.2
Factory noise	3	0.6	1.2
Auto shop noise	1	0.2	0.4
Conveyor belt	1	0.2	0.4
Farm machinery	1	0.2	0.4
Tractor equipment	1	0.2	0.4
Vehicle Noise	134	25.6	51.5
Traffic	5	1.0	1.9
Cars	34	6.5	13.1
Trucks	16	3.1	6.2
Motorcycles	27	5.2	10.4
Buses	7	1.3	2.7
Trains	5	1.0	1.9
Subways	2	0.4	0.8
Airplanes	25	4.8	9.6
Motorboats	1	0.2	0.4
Snowmobiles	5	1.0	1.9
Garbage trucks	7	1.3	2.7
Office Equipment	7	1.3	2.7
Typewriters	3	0.6	1.2
Adding machines	1	0.2	0.4
Computers	2	0.4	0.8
Teletype machine	1	0.2	0.4

Table 3-25 (Continued)

Products Whose Noise is Irritating

	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Products Whose Purpose is Noise	66	12.6	25.4
Television	17	3.3	6.5
Stereo	15	2.9	5.8
Radio equipment	6	1.1	2.3
CB radio	4	0.8	1.5
Radio & TV ads.	2	0.4	0.8
Juke box	1	0.2	0.4
Music in stores	1	0.2	0.4
Telephones	3	0.6	1.2
Intercom system	2	0.4	0.8
Horns	3	0.6	1.2
Buzzers	3	0.6	1.2
Factory whistle	1	0.2	0.4
Police and fire sirens	4	0.8	1.5
Smoke detectors	1	0.2	0.4
Fire alarms	1	0.2	0.4
Burglar alarms	1	0.2	0.4
Firecrackers	1	0.2	0.4
Miscellaneous	24	4.6	9.2
Noise in general	3	0.6	1.2
People/talking	5	1.0	1.9
Toys	2	0.4	0.8
Barking dogs	4	0.8	1.5
Dishes in restaurants	1	0.2	0.4
Toilet	3	0.6	1.2
Fish tank pump	2	0.4	0.8
Reservoir	1	0.2	0.4
Transformer	1	0.2	0.4
Fluorescent lights	2	0.4	0.8

The major types of products whose noise is most irritating to the respondents are household appliances and vehicle noise. Particular products frequently mentioned include dishwashers, washing machines, vacuum cleaners, automobiles, and motorcycles.

When asked specifically about products which they felt should be labeled, those 516 respondents, who had indicated that they would use a label if it were available, named an average of 1.73 products each as needing labels. As Table 3-26 shows, over 60 categories of products were mentioned, and again household appliances were the most frequently named type of products. Over 25 percent of the respondents also mentioned different kinds of power tools.

The very high proportions of respondents mentioning vacuum cleaners, air conditioners, and chain saws may have been affected by the questionnaire, since previous questions had mentioned these products.

Table 3-26

Products Which Need to be Labeled

Question: Are there any products you think it would be particularly important to label?

(N = 516)	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Major Household Appliances	261	29.3	50.6
Washing machine	57	6.4	11.0
Dryer	28	3.1	5.4
Dishwasher	46	5.2	8.9
Refrigerator	52	5.8	10.1
Freezer	7	0.8	1.4
Humidifier	1	0.1	0.2
Air conditioner	55	6.2	10.7
Furnace	6	0.7	1.2
Space heater	8	0.9	1.6
Trash compactor	1	0.1	0.2
Small Household Appliances	350	39.2	67.8
Appliances	41	4.6	7.9
Vacuum cleaner	172	19.3	33.3
Hairdryer	11	1.2	2.1
Blender	39	4.4	7.6
Mixer	20	2.2	3.9
Food processor	4	0.4	0.8
Ice crusher	3	0.3	0.6
Can opener	9	1.0	1.7
Garbage disposal	9	1.0	1.7
Clock	5	0.6	1.0
Window fan	4	0.4	0.8
Exhaust fan	9	1.0	1.7
Electric broom/sweeper	10	1.1	1.9
Floor polisher	1	0.1	0.2
Sewing machine	10	1.1	1.9
Electric razor	2	0.2	0.4
Electric knives	1	0.1	0.2

Table 3-26 (Continued)
Products Which Need to be Labeled

	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Power Tools	143	16.0	27.7
Power tools	15	1.7	2.9
Lawnmowers	45	5.0	8.7
Chain saws	69	7.7	13.4
Air compressor	4	0.4	0.8
Snowblower	4	0.4	0.8
Lawn trimmer	1	0.1	0.2
Well pump	2	0.2	0.4
Air hammer	3	0.3	0.6
Machinery	9	1.0	1.7
Industrial machinery	5	0.6	1.0
Anything with a motor	4	0.4	0.8
Vehicle Noise	62	7.0	12.0
Cars	21	2.4	4.1
Trucks	10	1.1	1.9
Motorcyles	20	2.2	3.9
Trains	1	0.1	0.2
Airplanes	2	0.2	0.4
Motorboats	1	0.1	0.2
Snowmobiles	2	0.2	0.4
Outdoor vehicles	1	0.1	0.2
Mufflers	3	0.3	0.6
Helicopters	1	0.1	0.2
Office Equipment	2	0.2	0.4
Typewriters	1	0.1	0.2
Copier	1	0.1	0.2

Table 3-26 (Continued)

Products Which Need to be Labeled

	No. of Times Mentioned	% of Total Number	% of Respondents Mentioning
Products Whose Purpose is Noise	20	2.2	3.9
Television	5	0.6	1.0
Stereo	8	0.9	1.6
Radio	3	0.3	0.6
Receivers	1	0.1	0.2
Headphones	1	0.1	0.2
Telephones	1	0.1	0.2
Smoke detectors	1	0.1	0.2
Miscellaneous	45	5.0	8.7
Everything	23	2.6	4.5
Anything over 90 decibels	5	0.6	1.0
Any noise damaging to health	2	0.2	0.4
Anything that interferes with sleep	2	0.2	0.4
Beauty shop noise	3	0.3	0.6
Toys	8	0.9	1.6
Fluorescent lights	1	0.1	0.2
Guns	1	0.1	0.2

Conclusions

The results of this nationwide survey show that the general public has some awareness of noise, and is a concern to a significant number of people. When they are asked specifically, most people are able to identify products that bother them. Most respondents state that the products that bother them the most are those used by someone else, rather than those they use themselves.

Household appliances, vehicles, and power tools are the most frequently named sources of irritating noise. Since many of these products are purchased by consumers for their own use, the products would appear to be likely candidates for noise labeling.

A majority of the public is in favor of the government's setting noise levels for certain products. The public also shows general support for a labeling program, stating that they would like to have such labels, that they would use such labels, and that they would still want the labels even if this increased the price of the products. Consumers want the manufacturer to supply the noise information but feel that the EPA would provide more accurate information. This supports the proposed product noise labeling program, which would require manufacturers to supply accurate and verifiable noise data on a label, with EPA's enforcement procedures to assure that manufacturers comply with the requirements.

The label must be made intelligible to the consumers to make use of the limited understanding of the terminology and relative levels of acoustic rating scales. Consumers are interested in noise as a factor in their purchase decisions, and there is reason to believe that, provided with a clear label, they will use it to purchase quieter products. The respondents stated a general willingness to pay more in order to get a quieter product.

There were almost no differences between respondents from different regions of the country and few differences by sex. This implies that a general consumer education program can be developed for the entire country. The most important point is that such a program is needed if consumers are to better understand and most effectively use noise information on labels when purchasing a product.

SECTION 3: TEST OF NOISE LABEL ELEMENTS

INTRODUCTION

In order to provide noise information to the public, as required by Section 8 of the Noise Control Act, that would, in effect, be usable, the Agency proposed the general provisions for protect noise labeling on June 22, 1977, in the Federal Register [4].

This proposed regulation included provisions on the content and format of the noise labels and solicited comment from the public. The following information and data were proposed as the content of the labels [5]:

(A) The term "Noise Rating" if the product is noise producing, or the term "Noise Reduction Rating" if the product is noise reducing;

(B) An acoustic descriptor rating;

(C) Comparative acoustic information;

(D) Product manufacturer identification;

(E) Product model number or type identification;

(F) The phrase "Federal law prohibits removal of this label prior to purchase";

(G) The U.S. Environmental Protection Agency logo;

(H) The term "Environmental Protection Agency"; and the format proposed for the label is shown in Figure 3-1.

The appropriate acoustic descriptor (A), the acoustic descriptor (B) rating and the comparative information (C) would be provided in a regulation specific to a certain product. A sample noise label, less descriptor rating and comparative information, is shown in Figure 3-2.

To further evaluate the proposed and alternative means of communicating noise information on product noise labels, the Agency felt that additional public response and perceptions were necessary.

Figure 3-1

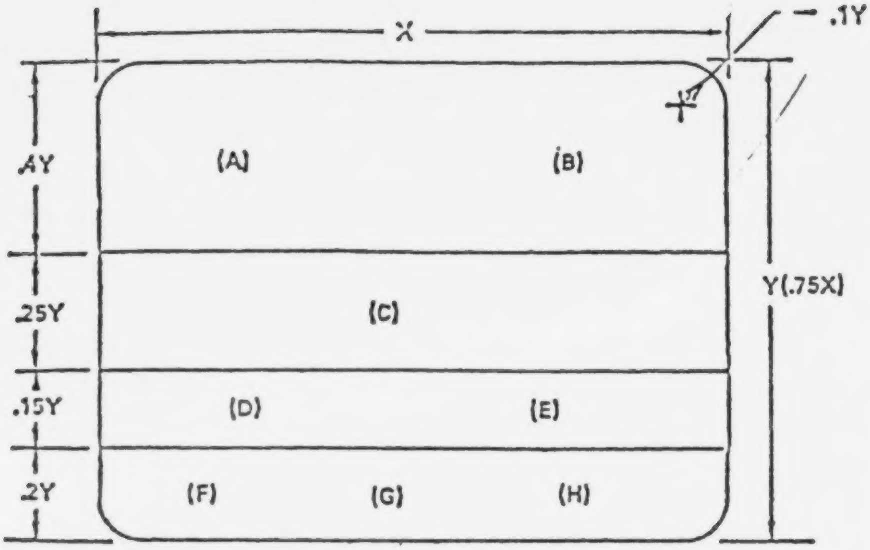
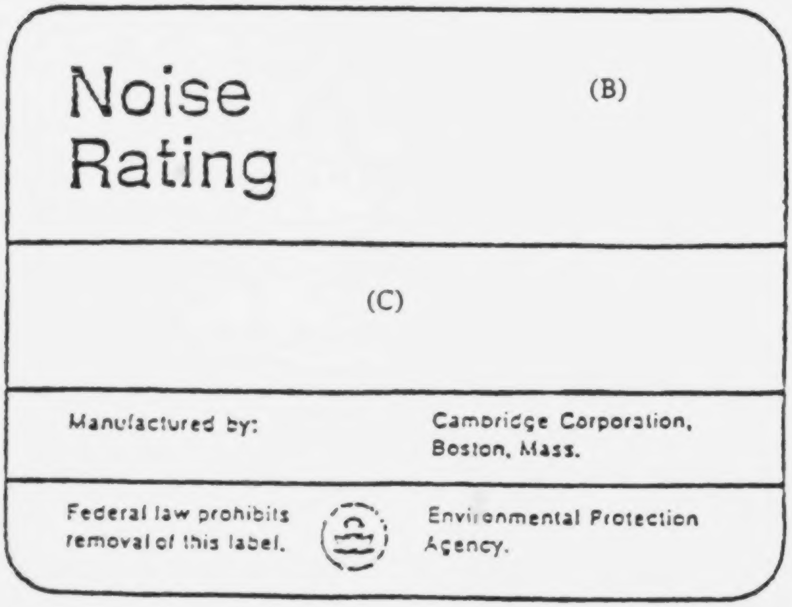


Figure 3-2


Noise Rating
(B)
(C)
Manufactured by:
Cambridge Corporation, Boston, Mass.
Federal law prohibits removal of this label.
Environmental Protection Agency.

Therefore, the Agency conducted an in-depth study of the public's perception of the proposed noise labels, and others suggested as alternatives, by means of a door-to-door public survey. In addition, based on the direction the results of the door-to-door survey led us, the Agency conducted a series of focus group discussions on the labels to further define the most effective, most informative label content and format for the Product Noise Labeling program.

The objectives, procedures, results, and conclusions of the door-to-door survey and the focus group discussions are described in the first and second parts of this section, respectively.

The interview protocols used in the door-to-door survey and focus group interviews are provided in Appendix B and C. Appendix D contains a summary of consumer comments obtained in the focus group sessions.

DOOR-TO-DOOR SURVEY TO EVALUATE ALTERNATIVE MEANS OF COMMUNICATING NOISE INFORMATION ON PRODUCT LABELS

The proposed general provisions of the noise labeling program provided that the acoustic descriptor rating and the comparative acoustic information would be specified as part of a regulation on a specific product. An independent contractor conducted the personal interview door-to-door survey for the Agency to gather the information the Agency needs to properly evaluate a number of methods for communicating descriptor and comparative acoustic information to the public.

Objectives

An ideal noise descriptor rating should be precise enough to allow consumers to distinguish between products having different noise levels. It should be based upon a system or scale so that each value represents only one meaning or noise level. It should be easily measurable and accurate; and it should be administratively and technically feasible to use in a noise labeling program.

The decibel, which is a measure of the magnitude of a particular quantity of sound (such as sound power or sound pressure) with respect to a standard reference value (20 micronewtons per meter squared ($20 \mu N/m^2$) for sound pressure, and 10 pico-watts (10ρ-watts) (10^{-12} watts) for sound power), possesses all of the above characteristics.

For this reason noise labels incorporating decibels as the descriptor were used in the door-to-door survey. Since the decibel scale is logarithmic, and potentially difficult to understand, a label with a "number only" and a label with an explanation of the decibel scale were also used in the survey. The explanation of the decibel scale read as follows: "A 10 decibel increase will roughly double the amount of noise a product makes."*

The comparative acoustic information on the noise label should provide additional assistance to consumers who wish to purchase quieter products by using noise labels. Three methods of providing comparative information were tested in the door-to-door survey. A simple statement urging consumers to "Compare Noise Ratings" was tested. A statement attempting to inform consumers about the general noise level of the labeled product was tested. This second statement, referred to as the barometer statement, read as follows: "60-75 decibels may interfere with TV listening in a room adjacent to the device." Finally, a statement providing information about the specific noise level of the product being labeled relative to the noise levels of other products of the same type was tested. This statement, referred to as the range information, read as follows: "The range in noise ratings for products of this type is approximately 60 to 80 decibels."

A total of nine different labels were developed to test the various methods of presenting the descriptor and comparative information. Five labels stating "decibels" were tested - four with comparative information only, and one with both comparative information and a short explanation of the nature of the decibel scale. Four different "number only" labels were tested, each corresponding to one of the four decibel labels. The descriptor and comparative information variations tested in the door-to-door survey are shown in Figure 3-3. The "A" labels correspond to the labels stating "decibels". The "B" labels correspond to the "number only" labels. The objective of the door-to-door survey was to obtain information necessary to evaluate the methods of providing descriptor and comparative acoustic information on product noise labels described above and shown in Figure 3-3.

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*Actually, to be completely accurate in the technical sense this statement should read "A 10-decibel increase will result in noise which is 10 times the amplitude, but only perceivable to people as twice as loud."

Procedures

The door-to-door survey was conducted in the Washington, D.C. metropolitan area. Blocks were randomly selected using the Block Statistics of the U.S. Census Bureau covering the District of Columbia, the City of Alexandria, Virginia and Arlington County, Virginia. Five sequential households were surveyed from a random starting point on each block. The survey took place April 10th through April 26th, 1978, from 3:30 p.m. to 7:30 p.m. each day. The only requirement for the selection of a respondent within a household was that the person be actually involved in the purchase of appliances for that household, i.e., someone who would potentially use noise labels. Once the appropriate person was available, an interview was conducted.

Initial questions related to noise as a potential irritant. Respondents were then asked to rate a label for its ability to communicate information, once after seeing the label for only 10 seconds, and then again after having read the label for as long as he or she wished. A second label, presenting the same descriptor and method of providing comparative information, but having a different numerical value, was then shown and the person's understanding of the labels was tested. Respondents were asked which of the two products would make more noise, whether either of the two products would be good to purchase if they were

Figure 3-3

Descriptor and Comparative Information Variations for Labels

A. (decibel)

A1

Noise Rating 60 decibels

Compare Noise Ratings

A2 (Range)

Noise Rating 60 decibels

The range in noise rating for products of this type is approximately: 60 to 80 decibels

A3 (Barometer)

Noise Rating 60 decibels

60-75 decibels may interfere with TV listening in a room adjacent to the device

A4 (Range and Barometer)

Noise Rating 60 decibels

The range in noise ratings for products of this type is approximately: 60 to 80 decibels

60 to 75 decibels may interfere with TV listening in a room adjacent to the device

A5 (Range and Explanation)

Noise Rating 60 decibels

The range in noise ratings for products of this type is approximately: 60 to 80 decibels

A 10 decibel increase will roughly double the amount of noise a product makes

B. (number only)

B1

Noise Rating 60

Compare Noise Ratings

B2 (Range)

Noise Rating 60

The range in noise ratings for products of this type is approximately: 60 to 80

B3 (Barometer)

Noise Rating 60

60-75 may interfere with TV listening in a room adjacent to the device

B4 (Range and Barometer)

Noise Rating 60

The range in noise ratings for products of this type is approximately: 60 to 80

60-75 may interfere with TV listening in a room adjacent to the device interested in buying a quiet product, and so on. To develop information concerning the background of the person answering the questions, questions were asked about age, occupation, education, attitudes toward noise, and attitudes toward the labeling of products to show their noise characteristics.

A copy of the interview procedures is included in Appendix B to this Part.

Results

A total of 144 persons were interviewed: 49 from the District of Columbia, 60 from Alexandria, and 35 from Arlington. Their demographic profile is shown in Tables 3-27 through 3-30. Females and non-whites were overrepresented in the sample. The overrepresentation of females reflects their availability during the survey hours and the numbers of females actually involved in product purchasing. The overrepresentation of non-whites in the survey was intentional, considering the population composition of the Washington, D.C. metropolitan area, so that a more reliable estimate of the usefulness of the information on noise labels to, and the perceptions of the noise labeling program by non-white groups might be obtained.

The results of the door-to-door survey in this metropolitan area indicate, as did the nationwide telephone survey previously conducted,* that there is strong consumer support for noise labeling, as shown in Tables 3-31 and 3-32. When asked, "Would you like to see a label placed on products to show how much noise they make?", approximately 85 percent of the people questioned in the survey indicated support. About 67 percent of the respondents reported that they would want noise label information even if an increase in the price of the products resulted. These results are similar to those obtained in the nationwide telephone survey.

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*Part III - Section 2.

Table 3-27

Sex of Those Respondents Answering This Question

	Number	Percent
Male	55	40.0
Female	82	60.0
Total	137	100.0

Table 3-28

Race of Those Respondents Answering This Question

	Number	Percent
White	74	53.6
Non-White	64	46.4
Total	138	100.0

Table 3-29

Education of Those Respondents Answering This Question

	Number	Percent
Less than high school graduate	24	16.9
High school graduate	34	23.9
Some college	25	17.6
College graduate	34	23.9
Graduate work	25	17.6
Total	142	99.9

Table 3-30

Income of Those Respondents Answering This Question

	Number	Percent
Under $5,000	9	7.0
$5,000-$9,999	13	10.2
$10,000-$14,999	30	23.4
$15,000-$19,999	20	15.6
$20,000-$24,999	23	18.0
$25,000 or more	33	25.8
Total	128	100.0

Table 3-31
Desire to Have Label Placed on Products

Question: Would you like to see a label placed on products to show how much noise they make?

	Number	Percent
Yes	121	84.6
No	15	10.5
Don't know	7	4.9
Total	143	100.0

Table 3-32
Willingness to Pay for the Label

Question: If putting a label on products to show how much noise they make would increase the price of the products, would you still want the information?

	Number	Percent
Yes	87	66.9
No	39	30.0
Don't know	4	3.1
Total	130	100.0

Respondents also reported that they would read the labels, that the labels contained believable information, that the labels contained easily understandable words, and that the labels would encourage them to buy quiet products.

Many of those questioned, however, expressed concern that there was too little information on the labels.

Some very interesting response patterns were identified when the respondents were asked to rate the various labels on their ability to communicate information. For one, the ratings on the labels stating "decibels" went down from label to label as more information was provided on the label, while the ratings on the "number only" labels went up from label to label as more information was provided on the label - suggesting that additional decibel information was confusing people. Also, the ratings on the decibel labels were low when rated after viewing them for 10 seconds, but went up after respondents read the labels for as long as they wished. The "number only" labels were rated high after being viewed for 10 seconds, but went down after respondents read the labels for as long as they wished. At first glance, the respondents apparently believed that the labels stating "decibels" were too difficult to understand. After reading those labels thoroughly, however, they were not as hard to understand as respondents originally thought. Whereas, the respondents believed "number only" labels to be easy to understand at first glance, but as they read these labels more carefully, they began to believe they did not understand them as well as they originally thought.

To determine whether people understood the direction of the noise rating scale, each respondent was shown two labels and was told the labels would be found on two different types of products. The first label had a 60 decibel rating; the second label had a 50 decibel rating. The respondent was then asked which of the two labeled products would make more noise. The correct answer was the 60 decibel product.

There was essentially no difference on this question between responses to labels stating "decibel" or "number only". About 80 percent of the consumers who were shown decibel labels and 80 percent of the consumers who were shown "number only" labels responded by saying that higher numbers would represent a noisier product. Twenty percent responded that the lower number would represent a noisier product.

An indirect reference to the direction of the decibel scale was included on Label A5 which said, "a 10 decibel increase will roughly double the amount of noise a product makes." About 90 percent of the people shown Label A5 responded that higher was noisier. Although this represents somewhat of an improvement, it suggests that a direct reference to the direction of the decibel scale, such as "lower noise ratings mean quieter products" is required. Table 3-33 presents the results of the questions, by the three types of labels tested, concerning the direction of the scale.

The labels containing barometer statements were misinterpreted by the majority of those questioned. The barometer information on the 60 decibel label read as follows: "60 to 75 decibels may interfere with TV listening in a room adjacent to the device." The barometer information on the 50 decibel label read as follows: "45 to 60 decibels may interfere with TV listening in the same room as the device." The concept of TV interference and the concept of distance used in these statements were misinterpreted. Many people regarded TV interference in the "viewing" sense, not in the "hearing" sense, and many believed a product which would interfere with TV listening in the same room as the device would be louder than a product which would interfere with TV listening in a room adjacent to the device. These results suggest that the specific barometer statements used in the survey were inadequate. They do not necessarily suggest, however, that the barometer approach is inadequate.

Table 3-33
Direction of Scale

Question: Can you tell me which of the two products would make more noise?

Decibel Labels (A1-A4)

	Number	Percent
Correct (higher number)	49	79.0
Incorrect (lower number)	13	21.0
Total	62	100.0

"Number Only" Labels (B1-B4)

	Number	Percent
Correct (higher)	51	79.7
Incorrect (lower)	13	20.3
Total	64	100.0

Decibel/"10 Decibel Increase" (A5)

	Number	Percent
Correct (higher)	16	88.9
Incorrect (lower)	2	11.1
Total	18	100.0

To determine the effectiveness of providing a range of "ratings" as the comparative acoustic information, respondents were shown two different labels having different noise ratings and different ranges of ratings. The first label had a noise rating of 60 decibels and a range of 60 to 80 decibels. The second label had a noise rating of 50 decibels and a range of 30 to 50 decibels. Respondents were told the labels would be found on two different types of products and were then asked, "If you were interested in buying a quiet product do you think the product with the first label on it would be a good product to buy? And why?" The correct response would be "yes" since the product was at the lower end of the range. Consumers were then asked, "If you were interested in buying a quiet product do you think the product with the second label on it would be a good buy? And why? The correct response would be "no" since the product was at the very top of the range.

Very few people (about 10 percent) were able to answer the range question correctly. Since they were also asked why they responded as they did, it was possible to identify the reasons for the incorrect responses. Three basic reasons were identified. First, one group of respondents believed that the higher number was the quieter product and therefore their responses to this question were reversed. Second, another group of respondents misunderstood the range statement. This group thought the range information referred to the particular product being labeled and not to other products of its type. They believed that the 60 decibel product - "under different conditions," "at different speeds," "at different times" - could be as loud as 80 decibels and therefore would not be a good product to buy, whereas the 50 decibel product "could only be quieter" or "could make as little as 30 decibel noise" once you bought it, and therefore would be a good buy. Finally, a very large group of respondents compared the noise ratings only and disregarded the range information. The number of people in this group increased dramatically as the amount and complexity of the information on the test labels increased. This finding is not inconsistent with several well-known "information overload" theories.

To determine if consumers presently understand the mathematical or logarithmic nature of the decibel scale and whether a simple label statement explaining the nature of the decibel scale would suffice, respondents to this survey were shown labels and asked, "What would the noise rating be for a product which is twice as loud as a 60 decibel product?," and "What would the noise rating be for a product which is half as loud as a 50 decibel product?" The results are shown in Tables 3-34 and 3-35. Clearly, the respondents did not understand the mathematical nature of the decibel scale. Only 5 percent correctly answered that 70 decibels would be approximately twice as loud as 60 decibels, and not one person responded correctly that 40 decibels would be half as loud as 50 decibels. What is more problematic, however, is that the following explanation of the decibel scale - "a 10 decibel increase will roughly double the amount of noise a product makes" - provided little improvement. Only about 17 percent of the consumers shown this information provided the correct response.

When asked if they believed they could use the kinds of labels shown to them to purchase quieter products, and why or why not, the answers were favorable, but respondents expressed the desire to learn more about decibels. Table 3-36 shows the percentage, by type of label, of those answering the question that believe they could use the labels.

Conclusions

While the people questioned in this survey responded very favorably to a noise labeling program - stating that they would like to have noise labels on products and that they could and would use the noise labels - many of the responses to the questions requiring some understanding of "decibels" and the intended use of the information on the label were unfavorable. Very few respondents were able to correctly use the range information

Table 3-34

Question on Nature of Decibel Scale

Question: What would the noise rating be for a product which is twice as loud as a 60 decibel product?

Decibel Labels (A1-A4)

	Number	Percent
Correct (70 decibels)	3	4.8
Incorrect (120 decibels)	28	43.6
Incorrect (other numbers)	16	25.8
Don't know	16	25.8
Total	63	100.0

Decibel/"10 Decibel Increase" (A5)

	Number	Percent
Correct (70 decibels)	3	16.7
Incorrect (120 decibels)	5	27.8
Incorrect (other numbers)	6	33.3
Don't know	4	22.2
Total	18	100.0

Table 3-35
Another Question on Nature of Decibel Scale

Question: What would the rating be for a product which is half as loud as a 50 decibel product?

Decibel Labels (A1-A4)

	Number	Percent
Correct (40 decibels)	0	0.0
Incorrect (25 decibels)	30	47.5
Incorrect (other numbers)	20	31.2
Don't know	14	21.3
Total	64	100.0

Decibel/"10 Decibel Increase" (A5)

	Number	Percent
Correct (40 decibels)	3	16.7
Incorrect (25 decibels)	7	38.9
Incorrect (other numbers)	5	27.7
Don't know	3	16.7
Total	18	100.0

Table 3-36
Ability to Use Labels

Question: Do you think that you could use these kinds of labels to purchase quieter products?

Decibel Labels (A1-A4)

	Number	Percent
Yes	44	68.8
No	14	21.9
Don't know	6	9.4
Total	64	100.1

"Number Only" Labels (B1-B4)

	Number	Percent
Yes	47	75.8
No	11	17.7
Don't know	4	6.5
Total	62	100.0

Decibel/"10 Decibel Increase" (A5)

	Number	Percent
Yes	14	77.8
No	2	11.1
Don't know	2	11.1
Total	18	100.0

provided on the labels, many misinterpreted the barometer information, and only a very small percentage of those answering questions on the "decibel" understood its mathematical nature, even when "a 10 decibel increase will roughly double the amount of noise a product makes" was included on the label. However, the answers that were given to the question "why" they answered the choice-of-product questions suggested: that a minor modification to the range statement might increase consumer understanding a great deal; that alternative barometer statements might be more successful than the one used during the survey; and that additional explanatory decibel information might be an acceptable substitute for a complete understanding of the mathematical nature of the decibel scale.

FOCUS GROUP DISCUSSIONS

Objectives

The objectives of the focus group discussions were closely tied to the conclusions of the door-to-door survey. They were to: (1) determine if consumers needed to understand the mathematical nature of decibels to be able to use decibel noise labels; (2) determine if negative responses to the range and barometer information obtained in the door-to-door survey were related to the specific statements used to communicate this information, or to the informational approach in general; and (3) determine what information consumers would like to have placed on labels, and how they would like it to be communicated.

Procedures

Five focus group sessions were conducted with people selected through a quota sampling system.

The quota sampling was intended to develop a group of participants that would be approximately 50% male and 50% female with a total composition of approximately 15% non-white. The group was intended to be based on a broad range of demographic features primary of which were age, education, sex, race and family income, but not in that order.

A total of 62 people attended the five focus group sessions. Their demographic characteristics are presented in Tables 3-37 through 3-41. As can be seen from these tables a wide representation of consumers was obtained. A summary of the participants' reactions to each of the labels tested is provided in the following section. Appendix D contains a more detailed summary of focus group comments.

Table 3-37
Age of Participants

	Number	Percent
20 and younger	2	3.3
21-25	10	16.4
26-30	21	34.4
31-35	17	27.9
36-40	5	8.2
41-45	1	1.6
46-50	0	0
51-55	3	4.9
56-60	2	3.3
61 and older	0	0
Total	61	100.0

Table 3-38
Sex of Participants

	Number	Percent
Male	30	48.0
Female	32	52.0
Total	62	100.0

Table 3-39
Education of Participants

	Number	Percent
High school grad or GED	11	62.0
Some college	27	
College degree	13	38.0
Some graduate work	2	
Advanced degree	9	
Total	62	100.0

Table 3-40
Race of Participants

	Number	Percent
White	55	89.0
Non-white	7	11.0
Total	62	100.0

Table 3-41

Annual Household Income of Participants

	Number	Percent
$5,001-$10,000	5	39.0
$10,001-$15,000	19	
$15,001-$20,000	4	45.0
$20,001-$25,000	14	
$25,001-$30,000	10	
$30,001-$35,000	13	16.0
$35,001-$40,000	5	
$40,001 and over	2	
Total	62	100.0

The procedures in the focus groups included a series of product and label displays, followed by self-administered questionnaires and in-depth exploratory interviewing. Four different types of products were labeled and displayed in the first four focus groups - three food blenders were labeled with "Compare Noise Rating" labels which stated "decibels" next to the number value of the rating; three food mixers were labeled with labels showing a range of "ratings"; three hair dryers (blow dryers) were labeled with "decibel guide" labels, i.e., a barometer by which it was possible to gauge the effect of certain levels of noise; and three power drills were labeled with "as loud as" labels, i.e., the decibel levels associated with certain products or actions. Power drills were also labeled in the fifth focus group session with labels developed from recommendations obtained during the first four sessions. Samples of each of the above types of labels and alternative labels which were shown to participants of the focus group discussions are provided in the Results section which follows.

Results

- General Reactions to Labels Stating Decibels (Label A: Figure 3-4)

The EPA seal and name on the label served to legitimize the label information. It was likened by many to the EPA automobile MPG labeling program -

> -"If someone saw EPA they'd think of automobile regulation. They'd relate it to the way the government is trying to regulate gas mileage."
>
> -"We always hear about the EPA ratings on gas mileage and all it means to me is 'measurement.' It doesn't mean approval or disapproval."

All of the participants understood that the general purpose of the noise labels was to communicate information on a product in the form of a noise rating, but some of the consumers did not understand the direction of the decibel scale, and many expressed a desire or stated a need to learn more about decibels. No one expressed a desire to have dB, dB(A) (abbreviations for decibel and an "A"-weighted decibel), or an explanation of the unit of measurement on the labels, but several consumers suggested that the words NOISE RATING be changed to OPERATING NOISE LEVEL.

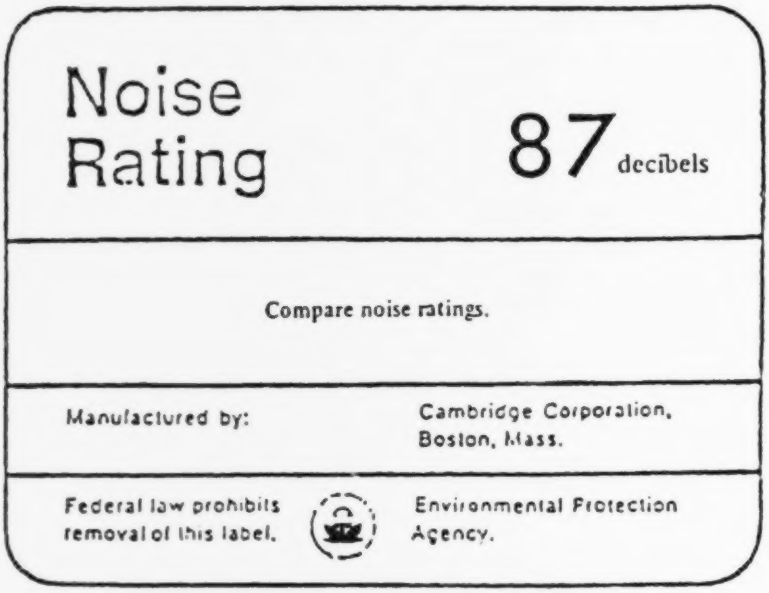
- Range Labels (Label B: Figure 3-5)

General reactions were very positive to labels stating a range of ratings: "a product range is important"; "it gives you something to go by - to use as a guide." Very few individuals misinterpreted the range information as was the case in the door-to-door survey. Tying the range down to the particular type of product - in this case, food mixers - helped to eliminate much of the confusion encountered during the door-to-door survey. The participants in the discussions also understood the range was an approximate range:

> -"These end points are not necessarily fixed."
>
> -"Right, it says approximately."
>
> -"I'll also say that I believe there is a drill that is less than 70 and possibly more than 92."
>
> -"I'll agree with that."
>
> -"The 'approximate' range . . . that kind of spells it out."

Figure 3-4

Label A: Example of a Decibel Label



Noise Rating 87 decibels

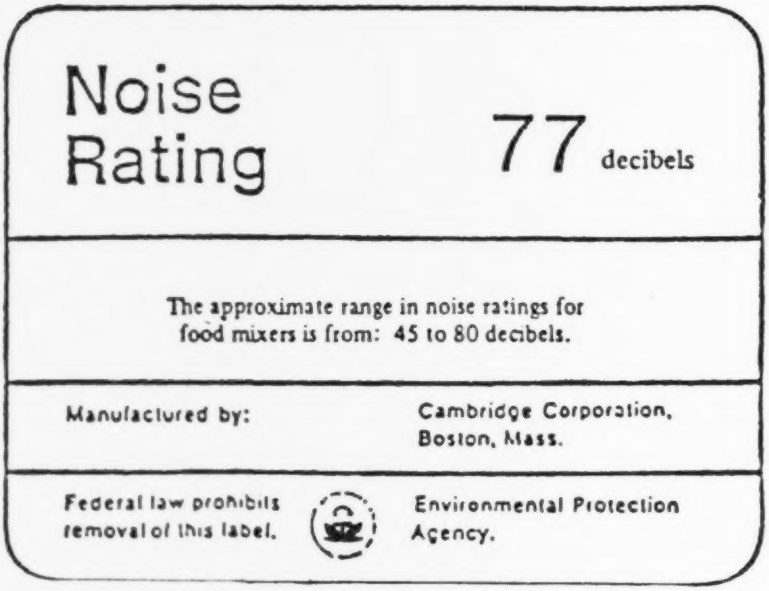
Compare noise ratings.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

Figure 3-5

Label B: Example of a Range Label



Noise Rating 77 decibels

The approximate range in noise ratings for food mixers is from: 45 to 80 decibels.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

o Range Label Alternatives (Label C: Figure 3-6)

General reactions to both of the range alternatives were negative. The first one was said to be redundant and the second was said to be merely a longer way of saying the same thing. Furthermore, the second alternative was incorrectly assumed to represent the exact end points of the range by some and should be avoided since, in fact, the end points are approximate. A consensus was reached in all groups that the range alternatives were not as good as the original range label shown to them.

o Decibel Guide Label (Label D: Figure 3-7)

The general reaction to the decibel guide information was positive, although many participants expressed the desire to have the range information on the label and the decibel guide in supplementary or educational materials. Many of the group members stated that the decibel guide contained too much information, but that the information was necessary:

-"I think it is too much, but on the other hand, maybe they could make a law to have it for about a year. It would educate the person . . . "

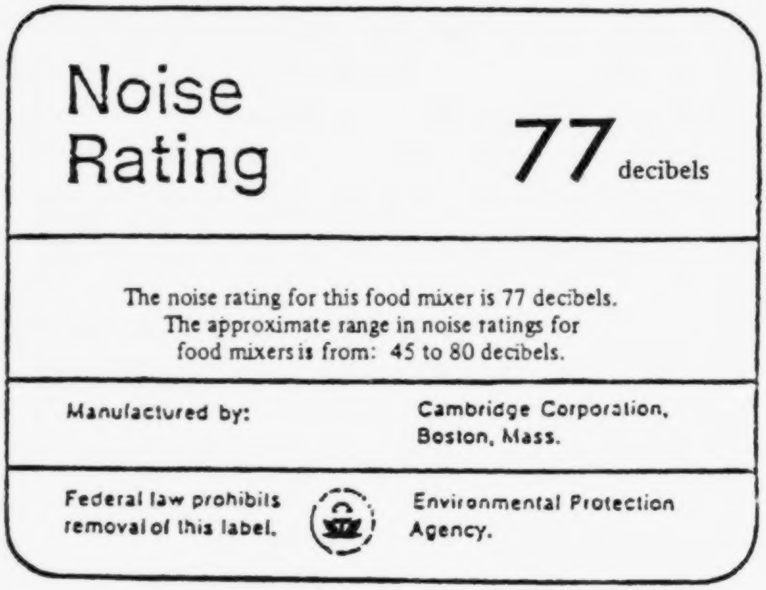
-"I agree with you [on that] as far as education is concerned. This gives you something to go by, but it shouldn't be on the label all of the time."

o Decibel Guide Alternatives (Label E: Figure 3-8)

Two alternative decibel guides were shown to the focus groups. The first alternative incorporated only the specific decibel guide statement which pertained to the particular value of the descriptor. That is, those sample labels which had 84 decibels as the value of the descriptor, had only the statement "75 and above. Must shout to be understood" on them. This presented a method of providing decibel guide information without providing the entire decibel guide and therefore without providing "too much information." The second alternative incorporated four different decibel guide statements for each of the four decibel levels. Two of these statements related to TV interference and had been used in the door-to-door survey.

Figure 3-6

Label C: Examples of Range Label Alternatives



Noise Rating

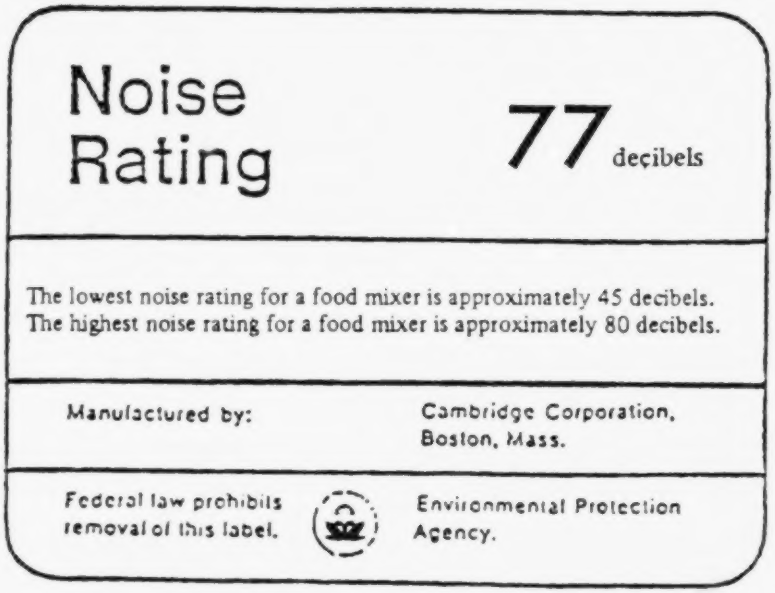
77 decibels

The noise rating for this food mixer is 77 decibels.
The approximate range in noise ratings for
food mixers is from: 45 to 80 decibels.

Manufactured by: Cambridge Corporation,
Boston, Mass.

Federal law prohibits
removal of this label.

Environmental Protection
Agency.



Noise Rating

77 decibels

The lowest noise rating for a food mixer is approximately 45 decibels.
The highest noise rating for a food mixer is approximately 80 decibels.

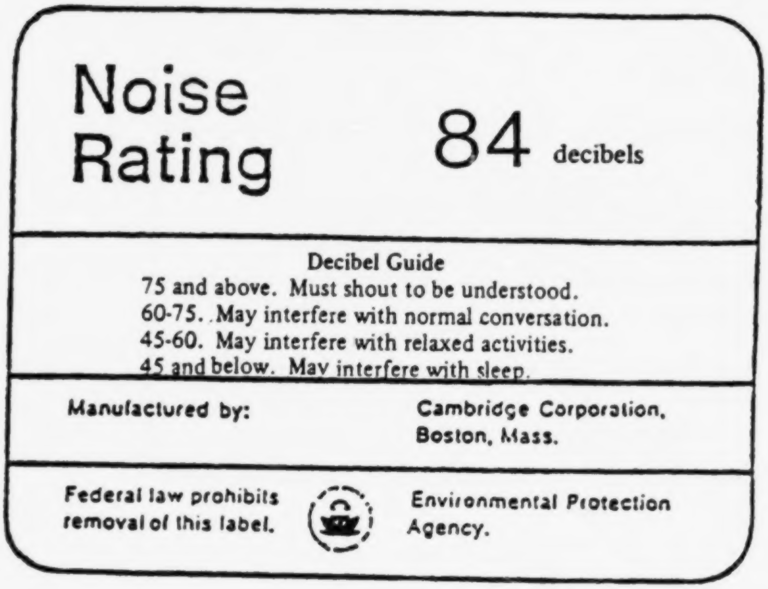
Manufactured by: Cambridge Corporation,
Boston, Mass.

Federal law prohibits
removal of this label.

Environmental Protection
Agency.

Figure 3-7

Label D: Example of a Decibel Guide Label



Noise Rating 84 decibels

Decibel Guide

75 and above. Must shout to be understood.

60-75. May interfere with normal conversation.

45-60. May interfere with relaxed activities.

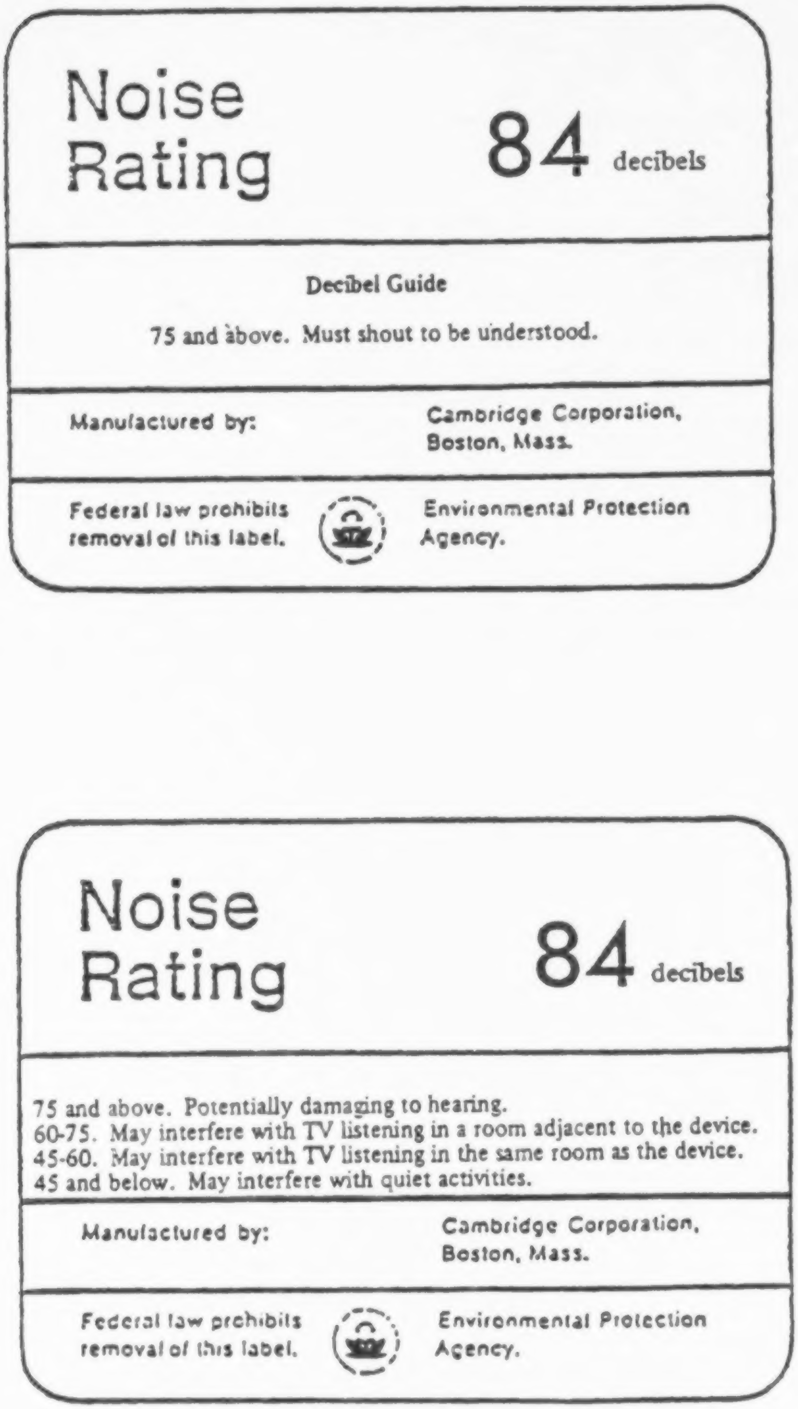
45 and below. May interfere with sleep.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

Figure 3-8

Label E: Example of a Decibel Guide Alternative



Noise Rating 84 decibels

Decibel Guide

75 and above. Must shout to be understood.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

Noise Rating 84 decibels

75 and above. Potentially damaging to hearing.
60-75. May interfere with TV listening in a room adjacent to the device.
45-60. May interfere with TV listening in the same room as the device.
45 and below. May interfere with quiet activities.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

The general reactions to both of the decibel guide alternatives were negative. Many of the participants reported, however, that they would like to see a statement on the label to inform them of potentially damaging decibel levels, such as "75 and above. May be potentially damaging to hearing." The TV interference statements were criticized by all groups - "that last one is bad . . . really bad . . . when you have to compare it to TV . . . ." General agreement was reached in all of the groups that the original decibel guide was better than the alternatives, under the assumption that the original could be modified to include statements on potentially damaging decibel levels.

- o Test of Barometer Statements

After having seen the different decibel guides, the focus groups were asked to use the guides to estimate the decibel levels of a number of different sounds such as that produced by thunder, a dishwasher, a typical business office, etc. They were then questioned to determine if any of the decibel guide statements were useful in estimating decibel levels.

The results of this test are provided in Table 3-42. The shaded boxes represent the approximate level of noise produced by the examples given. With the exception of the noise level produced by a typewriter, the group members were relatively accurate in their estimates. The two decibel statements - "75 and above. Must shout to be understood" and "60-75 may interfere with normal conversation" - were said to be the most useful in estimating decibel levels.

These results have several major implications. First, the responses were obtained from people who did not possess an understanding of the mathematical nature of decibels; therefore, the decibel guide statements can be an adequate substitute for an understanding of logarithms. Second, use of barometer statements which best aid a consumer in decibel level estimation should be considered for inclusion in the labeling program. Third, examples

Table 3-42

Results of Decibel Level Estimation

(Shaded areas represent decibel levels identified in published acoustical reports)

	Decibel Levels				Percent Estimating Correctly
	45 and below	45-60	60-75	75 and above	
EXAMPLE: Breathing	(X)				
1. Garbage disposal (67-93)	1	1	29	31	96.8
2. Soft whisper (30)	61	1			98.4
3. Vacuum cleaner (62-85)	1	3	21	38	93.7
4. Thunder (110)	1	5	20	34	56.7
5. Air-raid siren (130)		2	4	56	90.3
6. Dishwasher (54-85)		16	32	14	77.4
7. Typewriter (80)	5	36	21	▨	–
8. Rustling leaves (20)	43	18	1		69.3
9. Typical business office (50)	3	34	24	1	54.8

of sounds used to represent various decibel levels in the barometer statements should be picked carefully. For example, a soft whisper, measured at approximately 30 decibels, was perceived by all but one of the respondents to be in the 45 and below category, while rustling leaves, which were measured at 20 decibels (10 decibels lower than a soft whisper), were perceived to be 45 or higher by over 30 percent of the focus group members. Therefore, a soft whisper would be a much better example for very low decibel levels than would rustling leaves. Along the same line, an air-raid siren would appear to be a more appropriate example for very high decibel levels than would thunder. Finally, misleading examples, such as a typewriter, should not be used as examples of noise since not one of the 62 participants perceived the sound of a typewriter to be as loud as it actually is.

- "As Loud As" Labels (Label F: Figure 3-9)

Consumer reaction to the "as loud as" labels was very negative.

-"It bordered on ridiculous."
-"I think it is dumb."
-"I don't care for this at all."

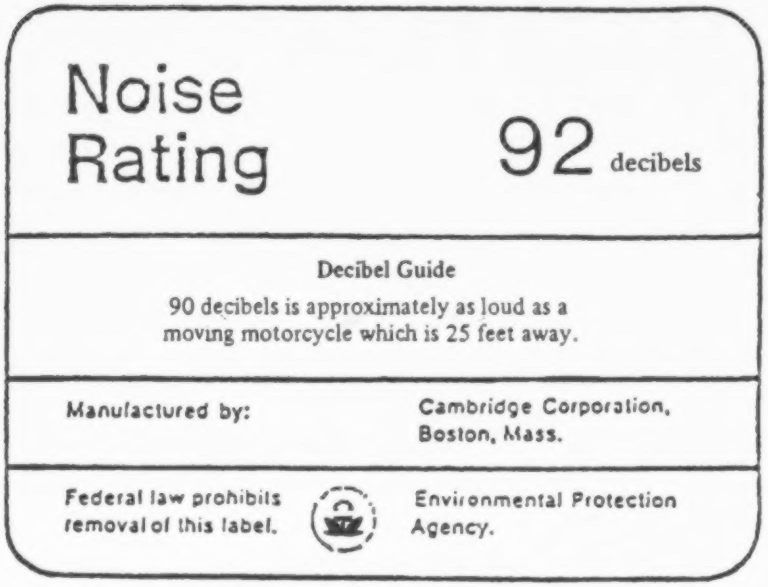
Many of the group members reported that they could not judge distance very well, that they could not determine how loud a motorcycle, or truck, or car actually sounded, and that there was too much variability in the loudness of cars, trucks, and motorcycles to make the comparisons meaningful: "Is it a new Honda or a Harley Davidson with straight pipes?" "Is that a Pinto or a Corvette?" "Is it going 5 miles per hour or 70 miles per hour?"

- "As Loud As" Alternatives (Label G: Figure 3-10)

Two alternative "as loud as" labels were shown to the group members. The first alternative incorporated all three of the "as loud as" statements used separately on the original labels. The second alternative incorporated different "as loud as" examples for the three decibel levels.

Figure 3-9

Label F: Example of an "As Loud As" Label



Noise Rating **92** decibels

Decibel Guide

90 decibels is approximately as loud as a moving motorcycle which is 25 feet away.

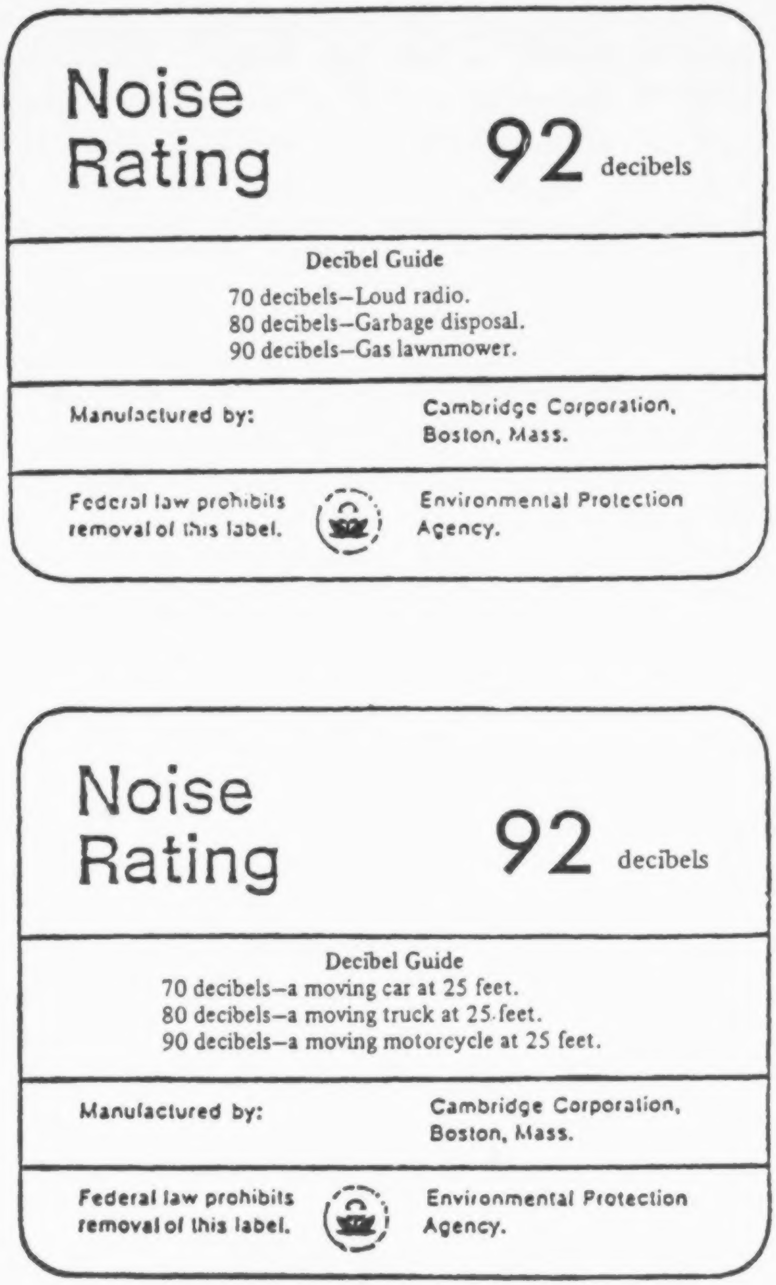
Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Figure 3-10

Label G: Examples of "As Loud As" Alternatives



Noise Rating **92** decibels

Decibel Guide

70 decibels–Loud radio.
80 decibels–Garbage disposal.
90 decibels–Gas lawnmower.

Manufactured by: **Cambridge Corporation, Boston, Mass.**

Federal law prohibits removal of this label. **Environmental Protection Agency.**

Noise Rating **92** decibels

Decibel Guide

70 decibels–a moving car at 25 feet.
80 decibels–a moving truck at 25 feet.
90 decibels–a moving motorcycle at 25 feet.

Manufactured by: **Cambridge Corporation, Boston, Mass.**

Federal law prohibits removal of this label. **Environmental Protection Agency.**

Consumer reaction to the "as loud as" alternatives was very negative - "I might not have a garbage disposal . . . What do you call a loud radio? . . . My idea of a loud radio might not be your idea of a loud radio;" "there's too much variability in what they are comparing . . . the reference is too variable." The second alternative was reported to be somewhat better than the original label and first alternative, although most consumers reported that they did not like any of the "as loud as" labels - "I don't like any of them, but the bottom one is a lot easier to relate to."

o Test of "As Loud As" Examples

To help determine the usefulness of the "as loud as" examples, consumers were given two examples at the 70, 80, and 90 decibel levels and were then asked to provide three examples of their own. The results of this test indicate that consumers are remarkably accurate in their estimation of decibel levels. The most frequently cited examples for each of the three decibel levels are provided in Table 3-43. The general categories of examples and the frequencies with which they were provided are presented in Table 3-44. Many of these examples compare favorably with decibel measurements found in published acoustical reports. Kitchen and other home appliances were the most frequently cited examples at the 70 and 80 decibel levels, while tools and vehicles (trucks and airplanes) were cited most frequently at the 90 decibel level. The general categories also compare favorably with published acoustical reports. These results indicate (as did the earlier test) that, when consumers are provided with the proper supporting materials, they may be able to effectively use noise labels which are expressed in decibels.

Table 3-43

Most Frequently Cited Decibel Level Examples

70 decibels		80 decibels		90 decibels	
Example	n	Example	n	Example	n
Typewriter	9	Vacuum cleaner	14	Power saw	10
Dishwasher	7	Dishwasher	13	Power (hand) drill	9
Mixer	6	Hairdryer	10	Pneumatic drill	8
Hairdryer	6	Blender	8		
TV	5				

Table 3-44

General Categories of Examples Provided by Consumers at the 70, 80, and 90 Decibel Levels

	70 decibels	80 decibels	90 decibels
Kitchen Appliances	26	27	1
(Other) Home Appliances	31	33	8
Tools	2	4	33
Vehicles	4	12	21
Warnings	1	3	10
Voice-related Sounds	5	2	2
Activity-related Sounds	5	5	0
Animal-related Sounds	2	0	0
Place-related Sounds	6	0	0
People-related Sounds	0	2	1
Other	14	5	5
(Total Number of respondents)	(46)	(46)	(46)
Total number of responses	96	93	81

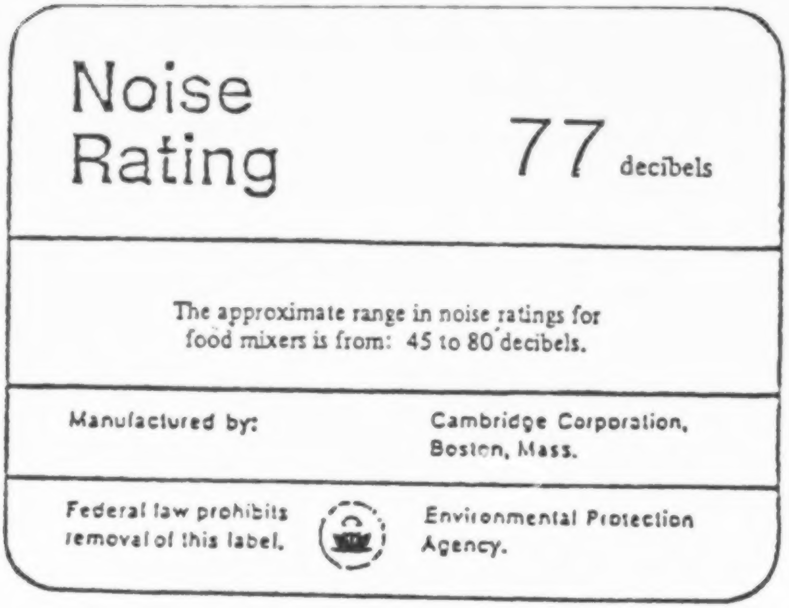
o Label Preferences (Figure 3-11)

Each focus group member was asked which of the label types - range, decibel guide, "as loud as" labels - he or she liked the best and the least. The majority reported that they liked the range information the best and the "as loud as" information the least. A number of participants reported, however, that the decibel guide information was essential and should be available in some form.

Figure 3-11

Consumer Preferences of Label Types

(in order of preference)



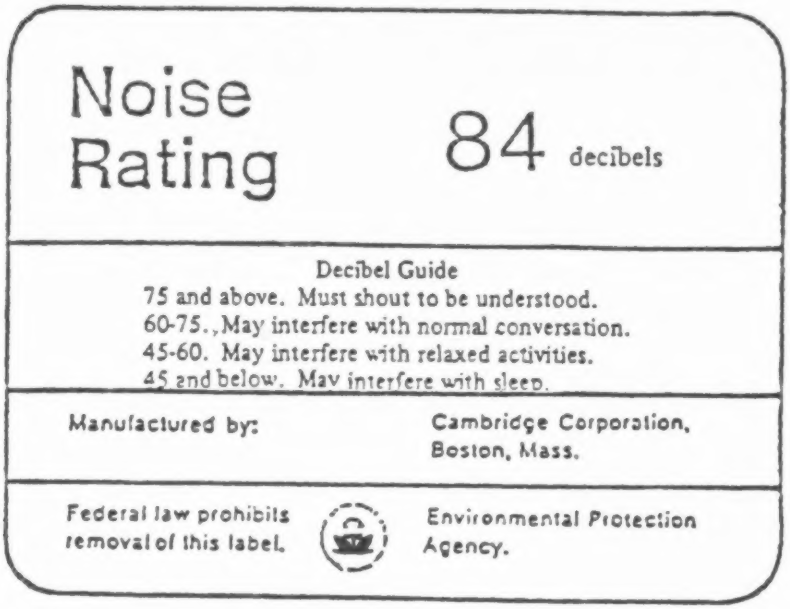
Noise Rating 77 decibels

The approximate range in noise ratings for food mixers is from: 45 to 80 decibels.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.



Noise Rating 84 decibels

Decibel Guide

75 and above. Must shout to be understood.

60-75., May interfere with normal conversation.

45-60. May interfere with relaxed activities.

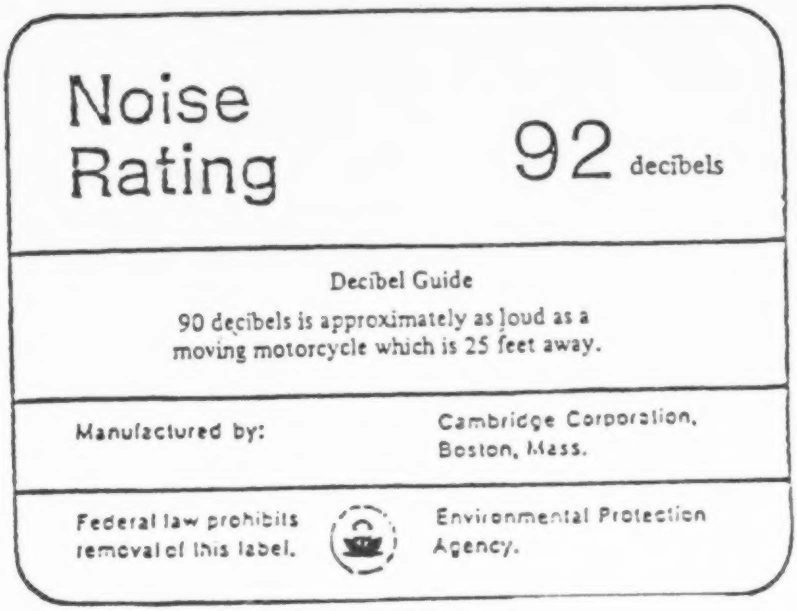
45 and below. May interfere with sleep.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Figure 3-11 (Continued)
Consumer Preferences of Label Types
(in order of preference)



Noise Rating 92 decibels

Decibel Guide

90 decibels is approximately as loud as a moving motorcycle which is 25 feet away.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label. Environmental Protection Agency.

Conclusions

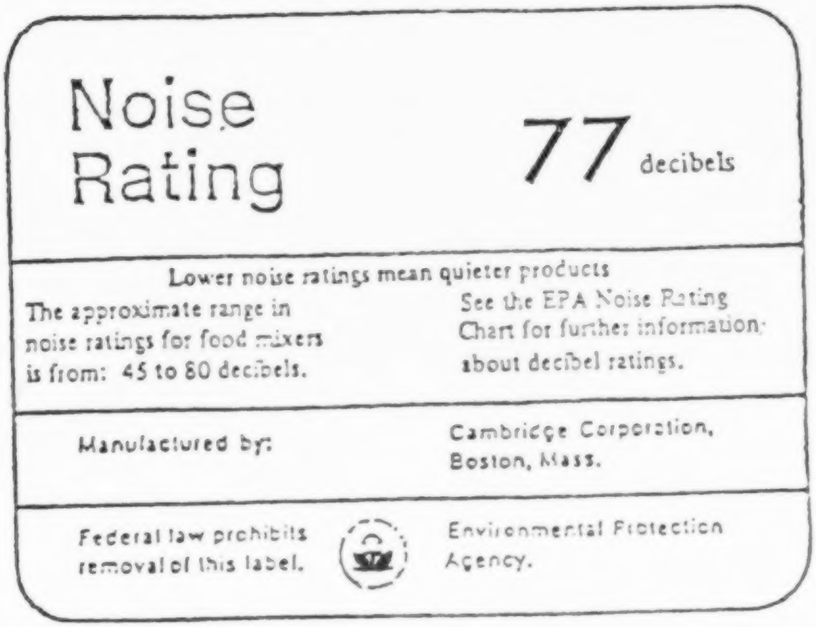
The results of the focus group discussions indicate consumers strongly agree that the range in noise ratings for products of a given type should be placed on the label, while barometer or decibel guide information should accompany the label. The negative reactions to the range and barometer during the door-to-door survey reflected difficulties that those being interviewed had with the specific statements used to communicate the information, and not to the approaches in general. Also, since these difficulties did not show up during the focus group discussions, they might have been a consequence of there being no example products with which to associate the noise labels and information statements.

The focus group sessions indicated that an appropriate decibel guide or barometer may be an able substitute for consumer understanding of the mathematical nature of decibels. These discussions indicated that consumers can, indeed, think in terms of decibel levels when they have little or no understanding of the logarithmic nature of the scale, as shown by the group members' rather accurate matching of products with appropriate decibel levels, and rather accurately supplied examples of sources which would produce sounds of 70, 80, and 90 decibels.

A sample noise label recommended by the contractor is shown in Figure 3-12 based on the results of the focus group discussions. A sample noise chart or barometer which might accompany the label, based on information from the focus group discussions, is shown in Figure 3-13.

Figure 3-12

Sample of Recommended Noise Label



Noise Rating 77 decibels

Lower noise ratings mean quieter products

The approximate range in noise ratings for food mixers is from: 45 to 60 decibels.

See the EPA Noise Rating Chart for further information about decibel ratings.

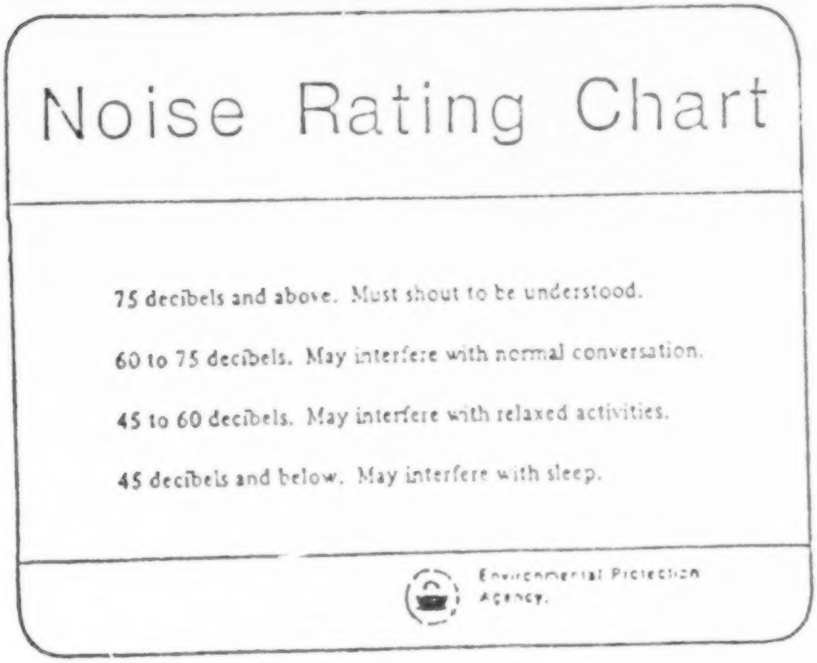
Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Figure 3-13

Sample Noise Chart or Barometer



Noise Rating Chart

75 decibels and above. Must shout to be understood.

60 to 75 decibels. May interfere with normal conversation.

45 to 60 decibels. May interfere with relaxed activities.

45 decibels and below. May interfere with sleep.

Environmental Protection Agency.

REFERENCES FOR PART III

[1] Backstrom, Charles H. and General D. Hursh, Survey Research. (Evanston, Ill.: Northwestern University Press, 1963), p. 3.

[2] Bryant, Barbara E. "Respondent Selection in a Time of Changing Household Composition," Journal of Marketing Research, XII, (May, 1975), pp. 129-135.

[3] U.S. Bureau of the Census, 1970 Census of Population, General Population Characteristics (Washington, D.C.: U.S. Government Printing Office, 1971).

[4] Notice of Proposed Rulemaking. Noise Labeling Standards: General Provisions. Federal Register, Vol. 42, No. 120, Wednesday, June 22, 1977. p. 31722.

[5] Ibid. p. 31725.

CONSULTANT'S GUIDE FOR PART III

Human Sciences Resources, Inc. Westgate Research Park, McLean, Virginia. Report #HSR-RR-78/10-Dl, 30 June, 1978.

APPENDIX A

QUESTIONNAIRE USED IN TELEPHONE SURVEY

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NOISE LABELING TELEPHONE SURVEY

Interviewer: ____________________

Coding: (1-2) ☐☐

Date: (3-6) ☐☐-☐☐ Day Month

Shift: (7)
(1) ☐ Morning
(2) ☐ Afternoon
(3) ☐ Evening

Telephone Number: (8-17) Area Code ☐☐☐ ☐☐☐-☐☐☐☐

Number of Adults in Household: ________ (18)

Selected Respondent: (19)
(1) ☐ Male
(2) ☐ Female

(20)
(1) ☐ Oldest
(2) ☐ Youngest
(3) ☐ Only

Repeat as much of Introduction as necessary.

Now I'd like to ask you a few questions.

1. Do you ever feel uncomfortable or irritated by noisy products or appliances in your home, your neighborhood, or your place of work?

(21)
(1) ☐ Yes
(2) ☐ No

If no, skip to Question 5.

Coding:

2. What are some of the products whose noise bothers you the most?

(22-23) ☐☐ ____________________
24-25) ☐☐ ____________________
(26-27) ☐☐ ____________________
'28-29) ☐☐ ____________________
(30-31) ☐☐ ____________________
,32-33) ☐☐ Are there any others? ____________________

For products below not mentioned above:

3. Are you ever bothered by noise from:

vacuum cleaners? (34)
(1) ☐ Yes
(2) ☐ No
(3) ☐ Not asked

chain saws? (35)
(1) ☐ Yes
(2) ☐ No
(3) ☐ Not asked

air conditioners? (36)
(1) ☐ Yes
(2) ☐ No
(3) ☐ Not asked

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4. Are the most bothersome noisy products those that you own and use, or those used by someone else?

(1)☐ by me
(37) (2)☐ by someone else
(3)☐ both
(4)☐ not asked

5. Do you think that there is much difference in the amount of noise that different brands of products such as vacuum cleaners or chain saws create?

(1)☐ Yes
(38) (2)☐ No
(3)☐ Don't know
(4)☐ Depends on the product

Now I'd like to know something about the things you think about when you buy certain products.

6. Usually, in buying an appliance or a product do you consider *price* to be very important, somewhat important, or not very important?

(1)☐ Very important
(2)☐ Somewhat important
(39) (3)☐ Not very important
(4)☐ Depends on the product

7. Do you consider the *brand name* to be very important, somewhat important, or not very important?

(1)☐ Very important
(40) (2)☐ Somewhat important
(3)☐ Not very important
(4)☐ Depends on the product

8. Usually, do you consider *cost of operation* to be very important, somewhat important, or not very important?

(1)☐ Very important
(41) (2)☐ Somewhat important
(3)☐ Not very important
(4)☐ Depends on the product

9. How about the *quietness of the operation* of a product or appliance?

(1) ☐ Very important
(42) *(2)* ☐ Somewhat important
(3) ☐ Not very important
(4) ☐ Depends on the product

10. If you were planning to buy a vacuum cleaner and the average vacuum cleaner cost about $70, how much *extra* would you be willing to pay, in dollars, for a vacuum cleaner that was only

*(43-44)*_____ three-fourths as loud?
*(45-46)*_____ half as loud?

11. Do you think the government should set noise levels for some products?

(1) ☐ Yes
(47) *(2)* ☐ No
(3) ☐ Don't know

Coding:
48-49) ☐☐ If no: Why not? ____
____

12. Do you think consumers should be given information about the amount of noise a product makes before they buy it?

(1) ☐ Yes
(50) *(2)* ☐ No
(3) ☐ Don't know

If yes: Do you think this information should come from the government, from the manufacturer, or from some other source?

(1) ☐ the government
(2) ☐ the manufacturer
(51) *(3)* ☐ other (specify: ________________________)
(4) ☐ don't know
(5) ☐ not asked

Which source do you think would provide more accurate information about the noise level of a product: the manufacturer or the Environmental Protection Agency?

(1) ☐ the manufacturer
(2) ☐ the EPA
(52) *(3)* ☐ neither
(4) ☐ not asked
(5) ☐ both

13. Would you *like* to see a label placed on products to show how much noise they make?

(53)
(1)☐ Yes
(2)☐ No

14. If a noise label were provided, would you be likely to use the information in your purchase decision?

(54)
(1)☐ Yes
(2)☐ No — If no, skip to Question 18
(3)☐ Depends on the product

15. If products were labeled to show how much noise they make, would you prefer the label to be:

(55)
(1)☐ A hang tag attached to each product,
(2)☐ A permanently affixed label on the product, or
(3)☐ A single sign as part of the product display, but not attached to each item.
(4)☐ Depends on the product.
(5)☐ Not asked.

Coding:
56-57) ☐☐
58-59) ☐☐
60-61) ☐☐

16. Are there any products you think it would be particularly important to label? ____________

____

17. I'd like to read to you four different ways of indicating on a label amounts of noise. After I have read all four, please indicate which approach you would prefer.

(62)
(1)☐ A star scale where four stars meant a very quiet product.
(2)☐ A number scale where a low number meant a very quiet product.
(3)☐ A color-coded label where a green symbol meant a very quiet product.
(4)☐ A word description which said "quiet" or "noisy."
(5)☐ No preference
(6)☐ Not asked

18. If putting a label on products to show how much noise they make would increase the price, would you still want the information?

(63)
(1)☐ Yes
(2)☐ No
(3)☐ Depends on the price increase
(4)☐ Other

19. I'd like to know if you can define certain terms for me now. If you don't know an answer, just say so rather than guess.

Can you tell me if a "therm" is a scientific measure of

(64)
- (1) ☐ electricity,
- (2) ☐ heat,
- (3) ☐ noise, or
- (4) ☐ gas.
- (5) ☐ don't know

Can you tell me if a watt is a scientific measure of

(65)
- (1) ☐ electricity,
- (2) ☐ heat,
- (3) ☐ noise, or
- (4) ☐ gas.
- (5) ☐ don't know

Can you tell me if a decibel is a scientific measure of

(66)
- (1) ☐ electricity,
- (2) ☐ heat,
- (3) ☐ noise, or
- (4) ☐ gas.
- (5) ☐ don't know

20. A decibel is a measure of noise level. City traffic is usually about 75 decibels, while a quiet whisper is about 20 decibels. Can you guess how loud

(67-69) ____ a vacuum cleaner might be?
(70-72) ____ how about a lawnmower?

That's all of the questions I need to ask you. The information you've provided will go into the decisions being made on labeling. We appreciate your taking the time to respond. Goodbye.

APPENDIX B

DOOR-TO-DOOR SURVEY: INTERVIEW PROTOCOL

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Code No. ____________________ *(1-3)*

Tract ____________________ *(4-7)*

Block ____________________ *(8-10)*

EPA APPLIANCE SURVEY

Date *(11-1)* ☐☐ ☐☐

Interviewer ____________________

INTRODUCTION

Hi, we're conducting a survey for the United States Environmental Protection Agency which deals with people's attitudes toward noise. Would you mind if I asked you a few questions? You don't have to answer any question you don't want to answer.

1. Do you ever feel uncomfortable or irritated by noisy products or appliances:

(15)	in your home?	*(1)* ☐ Yes	*(2)* ☐ No	*(3)* ☐ Don't know
(16)	How about in your neighborhood?	*(1)* ☐ Yes	*(2)* ☐ No	*(3)* ☐ Don't know
(17)	How about in your place of work?	*(1)* ☐ Yes	*(2)* ☐ No	*(3)* ☐ Don't know

2. What are some of the products whose noise bothers you the most?

____________________ *(18-19)* ☐☐

____________________ *(20-21)* ☐☐

____________________ *(22-23)* ☐☐

____________________ *(24-25)* ☐☐

3. Are you ever bothered by noise from:

(26)	vacuum cleaners?	*(1)* ☐ Yes	*(1)* ☐ No	*(1)* ☐ Don't know
(27)	chain saws?	*(2)* ☐ Yes	*(2)* ☐ No	*(2)* ☐ Don't know
(28)	air conditioners?	*(3)* ☐ Yes	*(3)* ☐ No	*(3)* ☐ Don't know

4. Are you ever involved in the purchase of appliances for this household?

(29) *(1)* ☐ Yes *(2)* ☐ No

IF NO, ask to interview a person involved in purchase of appliances.

Preceding page blank

Now I would like to show you a label for a few seconds which may be placed on appliances in the near future. We are testing the ability of this label to communicate to you and would like to ask you a few questions about it. We are not testing you, we are testing the label.

SHOW RESPONDENT LABEL NUMBER__ FOR EXACTLY 10 SECONDS

Now I would like you to rate this label in several ways. Here is a group of cards which have words and phrases on them and a seven-point scale.

HAND RESPONDENT GREEN CARD GROUP–Hard to Understand, etc.

Please look at each card, read me the letter on the card, and give me the number on the card which corresponds to how you feel about the label.

Record Answers Below

QUESTION 5: (Green Card Group)

	Letter on Card	Number	Comments
a.	Understanding	*(30)*______	______
b.	Attractiveness	*(31)*______	______
c.	Complexity	*(32)*______	______
d.	Importance	*(33)*______	______
e.	Label Reading	*(34)*______	______

Now I would like to show you the label again. Please read the label for as long as you think you would if you were in a store and saw the label on a product which you were considering buying.

SHOW RESPONDENT LABEL NUMBER__AGAIN

Now I would like you to rate the label again using these cards. Once again please read me the letter on the card and the number which corresponds to how you feel about the label.

HAND RESPONDENT WHITE CARD GROUP–Too little information, etc.

Record Answers Below

QUESTION 6: (White Card Group)

	Letter on Card	**Number**	**Comments**
a.	Information	*(35)* ______	______________________
b.	Interest	*(36)* ______	______________________
c.	Understanding	*(37)* ______	______________________
d.	Utility	*(38)* ______	______________________
e.	Label (good or bad)	*(39)* ______	______________________
f.	Believable Information	*(40)* ______	______________________
g.	Encourages procurement of quiet products	*(41)* ______	______________________

Now I would like to give you a piece of paper which has two labels on it. The first label is the same as the one you have just been looking at. The second label is very similar to the first but would be found on a product of a different type. Please look at these labels for as long as you like and then I will ask you a few questions about them. Remember we are testing the ability of the label to communicate with you, we are not testing you.

HAND RESPONDENT SHEET ____

QUESTION 7: Can you tell me which of the two products would make more noise, would it be the product with the first label on it or the product with the second label on it?

(42) ☐ *(1)* First label. Why? ______________________

____

____

____

☐ *(2)* Second label. Why? ______________________

____

____

____

(3) ☐ Don't know

QUESTION 8: If you were interested in buying a quiet product do you think a product with the first label on it would be a good buy?

(43) (1)☐ Yes (2)☐ No (3)☐ Don't know

Why? ____

____

____

QUESTION 9: If you were interested in buying a quiet product do you think a product with the second label on it would be a good buy?

(44) (1)☐ Yes (2)☐ No (3)☐ Don't know

Why? ____

____

____

QUESTION 10: What do you think the rating would be for a product which was *twice as loud* as the product with Label 1 on it? __________ ☐ (45) Don't know

Why? ____

QUESTION 11: What do you think the rating would be for a product which was *half as loud* as the product with Label 2 on it? __________ ☐ (46) Don't know

Why? ____

QUESTION 12: Do you think that you could use these kinds of labels to purchase quieter products?

(47) (1)☐ Yes (2)☐ No (3)☐ Don't know

If yes, how would you do so? ______________________________

____

____

If no, why couldn't you use the label? ______________________

____

____

If don't know, why aren't you sure? ________________________

____

____

QUESTION 13: Do you think there is much difference in the amount of noise that different brands of products make such as vacuum cleaners or chain saws?

(1) ☐ Yes
(48) (2) ☐ No
(3) ☐ Don't know

QUESTION 14: Would you like to see a label placed on products to show how much noise they make?

(1) ☐ Yes
(49) (2) ☐ No
(3) ☐ Don't know

If NO, skip past Question 15

QUESTION 15: If putting a label on products to show how much noise they make would increase the price of the products, would you still want the information?

(1) ☐ Yes
(50) (2) ☐ No
(3) ☐ Don't know
(4) ☐ Should not label

Now I would like to ask you a few questions about yourself for background purposes. Remember, this information is being used for statistical purposes only.

QUESTION 16: Would you please tell me your age on your last birthday? ☐☐ (51-52)

QUESTION 17: What is your occupation? ______________________________

For Coding Purposes Only
☐☐ (53-54)

QUESTION 18: What is the highest grade you completed in school?

(1) ☐ grade school
(2) ☐ junior high school
(3) ☐ some high school
(55) (4) ☐ high school graduate
(5) ☐ some college
(6) ☐ college graduate
(7) ☐ some graduate work
(8) ☐ graduate degree
(9) ☐ refusal

QUESTION 19: Could you tell me approximately what your annual family income is? Just give me the number from the list.

(56)
- (1) ☐ Under $5,000
- (2) ☐ $5,000-$9,999
- (3) ☐ $10,000-$14,999
- (4) ☐ $15,000-$19,999
- (5) ☐ $20,000-$24,999
- (6) ☐ $25,000 or more
- (7) ☐ Don't know
- (8) ☐ Refusal

Comments:

LABEL NO.

☐☐

(57-58)

APPENDIX C

FOCUS GROUP: INTERVIEW GUIDE AND QUESTIONNAIRES

APPENDIX C

FOCUS GROUP: INTERVIEW GUIDE AND QUESTIONNAIRES

INTRODUCTION

Welcome to HSR.

We are conducting a study for the Environmental Protection Agency which deals with noise. More specifically, the study deals with labels which may be placed on products in the near future to tell consumers how much noise different products make. We have several different types of labels we would like to show you and get your comments on . . . whether you think they are good or bad, easy or hard to understand, and so forth. Please don't be afraid to tell us what you think . . . it's just as helpful for us to know that you don't like something as it is to know that you do like something. Before we begin, I'd like to go around the room and have each of you give your first name and tell us if any kinds of noise(s) bother you.

Preceding page blank

Descriptor

Okay, does anybody have any questions?

Fine, In a minute, I would like all of you to go over and look at the labels on the three blenders. I have a couple of questions I'd like you to answer on these forms when you look at the labels. Please *don't* discuss the labels or the questions with each other. After you have finished reading the labels please come back and have a seat.

Okay, has everybody gotten a chance to look at the labels?

Fine. Now I would like to ask you a few questions and I want to be sure everybody answers each question in one way or another. We need a response from everybody but it's okay for you to just say "I agree with him or I agree with her."

1. When you looked at the labels, what did the words "Noise Rating" mean to you?

2. What did the EPA seal and name mean to you?

3. What did the word "decibels" mean to you?

4. What did the number in front of the word decibels mean to you?

5. Do you think quiet products would have high noise ratings or low noise ratings?

6. How many of you knew that decibels referred to noise?

7. How many of you have heard of dB's?

8. How about dBA's?

9. How many of you think you could use these labels to select a quieter product?

How would you do so?	Why couldn't you do so?

There are several different ways to present the noise ratings. Please take a look at these labels and tell me which type you like the best.

How about the least?

Can you think of any better ways to present the Noise Rating information?

Range

Okay, in a minute I'd like you to go over and take a look at the labels on the mixers. Again I would like you to take a little questionnaire with you to fill out when you are looking at the labels. Once again, please don't discuss the labels with each other and when you are finished please come back and have a seat.

Okay, has everybody gotten a chance to look at the labels?

Okay, now I'd like to ask each of you a few questions again like we did before. The information in the second part of the label is what we're interested in now. We call this the "range" information.

What did the range information mean to you?

Do you think the range information is important?

Do you think you need this information on the label to be able to use the label?

There are different ways of providing the range information. Please take a look at these labels and tell me which type you like the best.

How about the least?

Can you think of any better ways to present the range information?

Decibel Guide

Okay, now I would like you to go over and look at the labels on the blow dryers. Once again, please don't discuss the labels with each other.

Okay, has everybody gotten a chance to look at the labels?

Okay, now I'd like to ask you a few questions again. The information in the second part of the label is what we're interested in now; we call this the "Decibel Guide" information.

Do you think the Decibel Guide information is important?

Do you think you need this information on the label to be able to use the label?

There are several different ways of providing the Decibel Guide information. Please look at these alternative labels and tell me whether they are better, about the same, or worse than the first one you saw.

Now I'd like you to answer a few questions for me about decibel levels. Here is a short questionnaire which has a number of different types of noise on it. I'd like you to place a check in the column which you think is appropriate for the noise level of each type of noise.

Can you think of any better way to present the Decibel Guide information?

“As Loud As”

Now I would like you to go over and look at the labels on the drills. Once again, please don’t discuss the labels with each other.

Okay, has everybody gotten a chance to look at the labels?

Fine. Now I’d like to ask you a few questions again. The information in the second part of the label is what we’re interested in; we call this information “As Loud As” information.

What did the “As Loud As” information mean to you?

Do you think the “As Loud As” information is important?

Do you think you need this information on the labels to be able to use the labels?

There are several different ways of providing “As Loud As” information. Please look at these labels and tell me which one you like the best.

How about the least?

Can you think of any better way to provide this information?

Label Preferences

Now that you have seen several different types of information on the labels, I'd like you to tell me which *type* of information you like the best.

You have seen the "Range Information," the "Noise Guide Information," and the "As Loud As Information."

How many of you like the range information the best?

How many of you like the noise guide information the best?

How many of you like the "as loud as" information the best?

EPA NOISE LABELING

FOCUS GROUP INTERVIEW

To help us know who is attending these focus group interviews, please tell us the following things about yourself. The information you provide will be confidential. DO NOT put your name on this sheet.

Age:
☐ 20 and younger
☐ 21-25
☐ 26-30
☐ 31-35
☐ 36-40
☐ 41-45
☐ 46-50
☐ 51-55
☐ 56-60
☐ 61 and older

Sex:
☐ Male
☐ Female

Education:
☐ Some high school
☐ High school graduate or GED
☐ Some college
☐ College degree
☐ Some graduate work
☐ Advanced degree

Race:
☐ Black
☐ White
☐ Neither black nor white (please specify ______________________)

Annual Household Income:
☐ $5,000 and under
☐ $5,001-$10,000
☐ $10,001-$15,000
☐ $15,001-$20,000
☐ $20,001-$25,000
☐ $25,001-$30,000
☐ $30, 001-$35,000
☐ $35,001-$40,000
☐ $40,001 and over

1. If you were interested in buying a very quiet mixer, do you think that mixer A would be a good mixer to buy?

   ☐ Yes
   ☐ No
   ☐ Don't know

2. If you were interested in buying a very quiet mixer, do you think that mixer B would be a good mixer to buy?

   ☐ Yes
   ☐ No
   ☐ Don't know

3. If you were interested in buying a very quiet mixer, do you think that mixer C would be a good mixer to buy?

   ☐ Yes
   ☐ No
   ☐ Don't know

Please fill in blanks (c, d, and e) with more examples of what you believe would be approximately as loud as the number of decibels given. If you cannot think of examples, please write "don't know" in the blank or blanks.

"70 decibels" is approximately as loud as:

a. a moving car at 25 ft. } examples
b. a loud radio
c. ______________
d ______________
e. ______________

"80 decibels" is approximately as loud as:

a. a moving truck at 25 ft. } examples
b. a garbage disposal
c. ______________
d. ______________
e. ______________

"90 decibels" is approximately as loud as:

a. a moving motorcycle at 25 ft. } examples
b. a gas lawnmower
c. ______________
d. ______________
e. ______________

Place an X in the column that you think describes the noise range for each of the following items:

	Decibel Levels			
	45 and below	45-60	60-75	75 and above
EXAMPLE: Breathing	(X)			
1. Garbage disposal				
2. Soft whisper				
3. Vacuum cleaner				
4. Thunder				
5. Air-raid siren				
6. Dishwasher				
7. Typewriter				
8. Rustling leaves				
9. Typical business office				
10. Conversational speech				

APPENDIX D

EXCERPTED FOCUS GROUP COMMENTS

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APPENDIX D: EXCERPTED FOCUS GROUP COMMENTS

Reactions to Decibel Labels

Interviewer: What are your general reactions to the noise labels?

Group 1

- I assume that it is a rating.
- If I would see one label I would go to look for another.
- I would look at the labels and assume a better model wouldn't make as much noise.

Group 2

- I first noticed NOISE RATING, then looked at the figure and noticed a differentiation by "decibels."
- (What did Noise Rating mean to you?) A connotation of loudness.
- (Did Noise Rating mean anything else to anyone else?)—I felt the higher rating must be louder and wondered if pitch was differentiated.

Group 3

- It would have to tell you what decibels mean as far as sound goes. A lot of people might really not know what they're talking about and just automatically take the low rating.
- When I see that—I don't know how to read it right now—but once I know exactly how the decibels go I think it is going to say how loud a product is, but if I don't right now know I can't compare it to anything—what is 87 decibels?
- If it were a scaled system, or a scaled number of decibels per appliance and consumer understood this rating, I think it would be a lot easier to shop.

Group 4 -

- Some scale by which you could measure noise.
- General problem until I saw all three labels is what did the noise rating mean—you couldn't tell whether it was high or low. You need a basic education—consumer education—for a person to evaluate.

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Reactions to EPA Name and Seal

Interviewer: What does the EPA name and seal signify to you?

Group 1

- It authenticates it.
- Nothing except the government is getting their thumbs on something else.
- I didn't look at it.
- If someone saw EPA they'd think of automobile regulation. They'd relate it to the way the government is trying to regulate gas mileage.
- If you see EPA as opposed to Joe Smith's Noise Rating—it's a lot more impressive.
- A lot more impressive.
- It's an agency for standardization. They (labels) all go back to one point—rather than what each manufacturer is saying.
- (Interviewer: Did anyone think that it meant this was a good product because it had been tested?)—No.

Group 2

- Federal government—government regulation.
- I didn't even notice it—I just saw numbers and "decibels."

Group 4

- It means some sort of government regulation.
- I would think with the seal that it had been inspected by some government agency.
- It almost signifies legitimacy.
- I disagree with that. We always hear about the EPA ratings on gas mileage and all it means to me is "measurement." It doesn't mean approval or disapproval.
- Well, at least these products had been measured. I don't know whether all products will have to be measured, but if it didn't have to be across the board, the ones with the stamp would to me carry a little more legitimacy.

Group 5

- I didn't even look at it. I think it's an excellent label though—very easy to understand.

Reactions to Decibel Alternatives

Interviewer: Does anyone like any of these three alternatives better than the decibel labels? (The three alternatives are provided in the Figure on the following page.)

Group 1

- The first one (* and explanation), in my opinion, tells you more for the average person. It has a rating . . . but explains it down here. It gives you more information–it still doesn't tell most people though . . .
- It catches your eye, but it doesn't say anything once you read it, to me.
- As far as the decibel rating . . . I think it's better to have decibel spelled out. I probably could figure out dBA's in a very short time, but decibels are associated with noise–87 decibels is very straightforward.

[General agreement that "decibels" is the best alternative.]

Group 2

- I thought the first one was the best (decibels)–abbreviations and formulas and asterisks connote being over-scientific–they look too hard–seems like a consumer fraud.
- I thought it was over-clarification which meant confusing the consumer issue–the definition doesn't say anything.
- I agree.
- I agree.
- The asterisk alternative is the most confusing.
- I agree.
- I had no idea what dB or dBA's meant.

[General agreement that "decibels" is the best alternative.]

Group 3

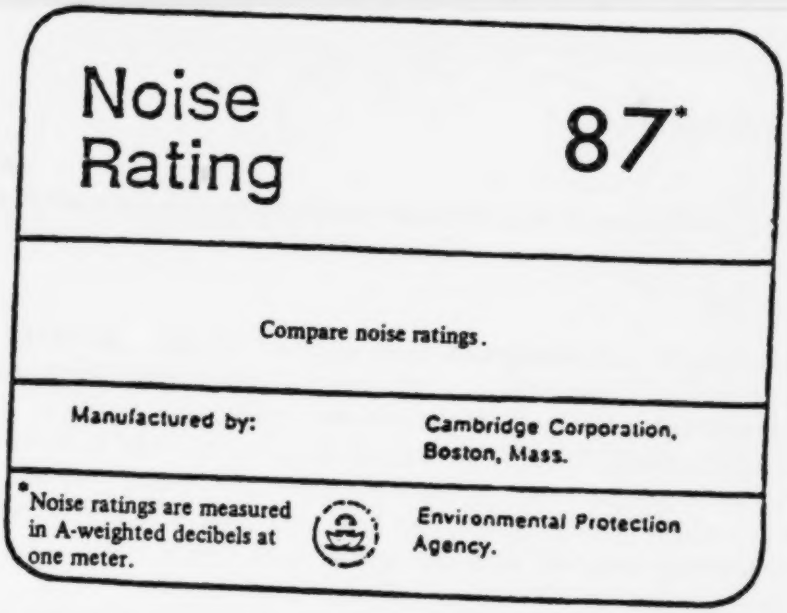
- I prefer the first one (decibels) because I don't know what the others mean, it might mean the same thing but I wouldn't know that.
- It seems like they're just adding more confusion, the simpler it is, the better it's going to be.

[General agreement that "decibels" is the best alternative.]

Group 4

- I don't think anyone would understand what they meant (alternatives).
- I was getting ready to say the same thing.
- If I saw that on a product I wouldn't know what it meant.
- I would have no idea, except for "noise rating."
- The top one–I wouldn't know what they meant by A-weighted decibels–I'm not familiar with any of it.

[General agreement that "decibels" is the best alternative.]



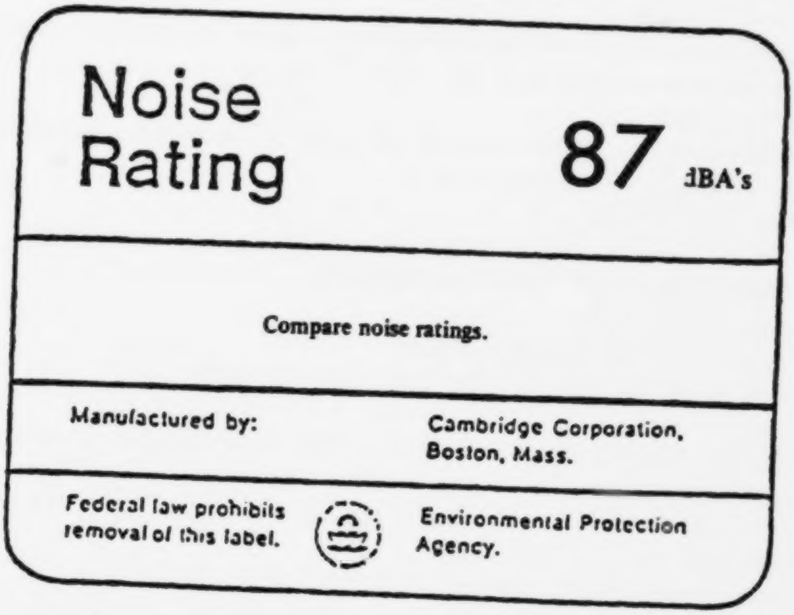
Noise Rating **87***

Compare noise ratings.

Manufactured by: Cambridge Corporation, Boston, Mass.

*Noise ratings are measured in A-weighted decibels at one meter.

Environmental Protection Agency.



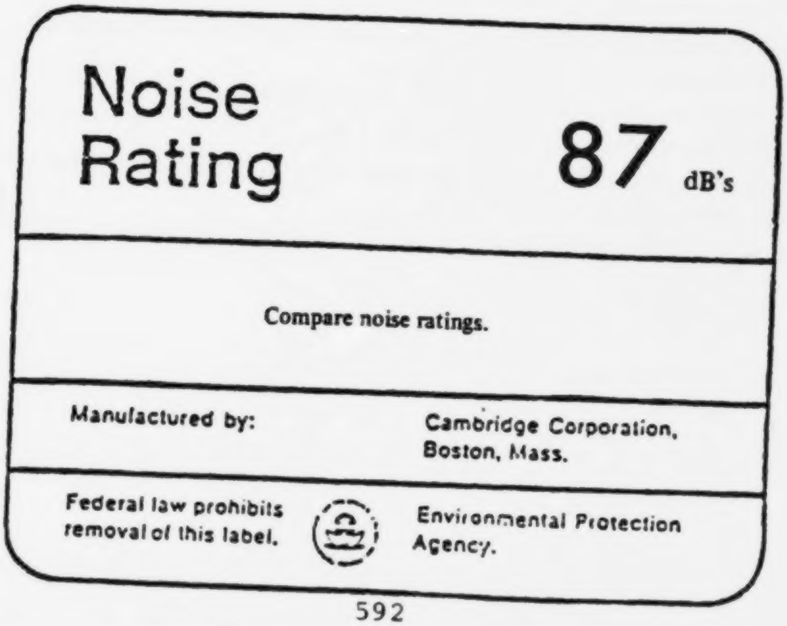
Noise Rating **87** dBA's

Compare noise ratings.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.



Noise Rating **87** dB's

Compare noise ratings.

Manufactured by: Cambridge Corporation, Boston, Mass.

Federal law prohibits removal of this label.

Environmental Protection Agency.

Reactions to Range Labels

Interviewer: What are your general reactions to these kinds of labels, we call these labels the *range* labels?

Group 1

- A product range is important. It helps you decide on that particular one. It's a good guide. It helps you to measure . . . it gives you the norm.
- I think if you're going to buy a mixer, you know it is noisy, and the guide shows you that if it's close to 80 it's going to be more noisy than a normal mixer.

[Interviewer: How are you interpreting it?]

- These end points are not necessarily fixed.
- Right, "approximately."
- With same range on every label (for a particular type of product), I don't think there will be any misunderstanding.

Group 2

- It gives you something to go by–to use as a guide. I had felt the need for a reference guide to tell me what the numbers meant.
- It referred to mixers presently on the market.
- I thought EPA determined that products could be no higher than the highest number and the range indicated that the product in this range was "safe" or not too noisy for consumers, i.e. food mixers should not go over 80 dB's.
- I felt this particular product could be as high as 80, or as low as 45, since it's variable speed, it might.
- Felt that EPA hadn't recommended that range, it doesn't suggest a qualitative connotation–just that on the market there exists mixers whose decibels range from 45 to 80.

[Interviewer: How many people felt the range indicated an EPA standard?–1]

[Interviewer: How many people felt that any one food mixer could encompass the entire range, depending on number of speeds?–1]

[Interviewer: How many people felt the range indicated approximately the highest and lowest rated food mixer on the market?–14)

Group 3

- I think it's very good. At least it gives people an idea of what type of noise to expect from the appliance itself.

[Interviewer: What does that statement mean to you?]

- It's telling me that a food mixer at 45 decibels is going to be an extremely quiet appliance *versus* Brand X at 80 decibels which will be extremely noisy.

[Interviewer: Did it mean to anybody that that particular blender being labeled could range anywhere from 45 to 80 decibels?–NO!]

- The only thing is I can't differentiate in my mind what 45 decibels sounds like and an 80–I don't know where 45 starts, I don't know how loud that is to begin with.

[Interviewer: Do you think that you could use this kind of information without knowing that?]

- Yes, if noise bothers you, you definitely would go for the lowest one.
- The thing is you don't really know how many mixers are going to be in the lower part of the range, like these three here, I get the impression that most mixers are very noisy, cause they're all in the high 60's and 70's.

[Interviewer: How would this affect you as a consumer?]

- I would probably have to shop around more to see if there are any lower than that. I would try to find one that's down in the forties.

Group 4

- That's better than the first one, but still you're not learning anything about what a decibel is. I know about mixers now, but I don't know whether this is harmfully loud or not . . . I still don't know anything about it.
- It appears to me that it's very loud.
- I don't think people are educated yet to know what these all mean. Considering all levels of intelligence–the majority wouldn't.

[Interviewer: Were any of those mixers a good buy?–NO!]

[Interviewer: Why was that?]

- All were high in comparison to 45.

[Interviewer: The range meant . . .?]

- You could find one for 45 or one for 80.

[Interviewer: Did it mean to anyone that the approximate range for that particular food mixer could be anywhere from 45 to 80?–No.]

- It meant to me that all food mixers fall in that category and that these mixers (the display models) were in the upper limits of the category of mixers.

Group 5

- It says here that the approximate range for power drills is from 70 to 92 . . .

[Interviewer: What do you take that to mean?]

- It means that they have manufactured drills that hit 70 and also hit 92.
- I'll also say that I believe there is a drill that is less than 70 and possibly more than 92.
- I'll agree with that.
- The "approximate" range–that kind of spells it out.

Reactions to Range Label Alternatives

Interviewer: Does anyone like any of these alternatives (range) better than the one you've just seen?

Group 1

- It doesn't tell me anything more.
- The first one is redundant. The second one seems like an elongated way of doing it.
- The second one–I would get insulted–what am I a jerk or something?
- This one (the second)–for the less intelligent people, that is, the less informed people . . . they could use this a little better than the first one.
- I think the approximate range may be confusing for some people. That phraseology may be confusing, but as far as . . . the very first one (original range label) is the most straightforward and I think it would be more easily interpreted because the wording doesn't change.

[Interviewer: Does anyone like either of the alternatives better?–No.]

Group 2

[General Reaction: No.]

Group 3

- The bottom one on the second sheet is better. It gives you *the* lowest noise rating, where the first gives you *the approximate.* It's more to the point, it looks exact, "the lowest noise rating for a mixer is. . ." oh, wait a minute, it does say approximate–scratch that comment.
- It's basically saying the same thing.
- The top one is repetitious.

[Interviewer: Does anyone like the top alternative better?–No.]
[Interviewer: Does anyone like the bottom alternative better?–1]

- Yes, because it tells you *exactly* what the noise rating is.
- No it doesn't.
- It still says approximately, it says the same thing.
- The first one is better then.

[Interviewer: How many people like the first one better?–All]

Group 4

- I like the second one. It lets you know *exactly* what lowest and highest are.
- The other one says "the approximate range."
- It's saying the same thing "is approximately."
- I find the third one verbose.

[10 out of 11 like the original range label better.]

Reactions to Decibel Guide Labels

Interviewer: What are your general reactions to these labels?

Group 1

- Like I was saying earlier, you had a rating but you didn't know exactly what that meant—this is good because it tells you where you stand—what that noise is going to do.
- It would give just about anybody a real good understanding about what a decibel is. They would know how loud—they would have to shout to somebody—they could compare that to another sound.
- I would be very interested in this type of label. I work as a hairstylist and the part that I'd be interested in is "normal conversation" because I want to talk while I'm drying hair.

Group 2

- Very, very informative.
- I don't like it because it makes you think that there are products in the lower decibel levels—you could spend a lot of time looking for the "non-existent" blender in the lower range. I like the idea of having the range for the product. If you want a product, you have to deal with what is on the market. From this label assumes a 45 dB hairdryer is available.
- You can interpret this label in many ways.
- It borders on laughable—I really hope EPA is not spending too many tax dollars coming up with labels like this. I think some amount of regulation is being called for, but this seems to go over the edge, it's more than the consumer needs. Why not have an index. This is going too far.
- But the label is meant to be informative, not for regulation. I think the information is good.
- Yes, consumers cover a really wide range, it has to be easily understood.
- Isn't it too informative?
- I think it is too simple—but it still has to be understood.
- I like the guide but perhaps it's too detailed.

Group 3

- I think this is too much, but on the other hand, maybe they could make a law to have it for about a year, it would educate the person and then go back to the first one (the range).
- I look at it—if someone is going to buy a hair dryer, in my opinion, they're not going to worry about whether they could be understood or whether your children could hear you. You buy it because you need it, and this is just . . .

[Interviewer: But if they could manufacture a hair dryer that would only interfere with conversation and you wouldn't need to shout, would you buy it?]

- No.
- Yes you would, because I'm the one who has to listen to it! (spouse)
- I think the guide should be reversed and have 45 and below at the top and work your way down . . .
- Yeah, because that's what you're looking for, you have to read so much before you get there.

[Interviewer: How many of you like the idea of reversing the scale? 5 of 11.)

- I like the idea of the scale to tell you the different ranges, and what they are. I think it is much more accurate than the one you had before (range). It gives you something to gauge it from.
- I agree with you on that as far as education is concerned, this gives you something to go by, but it shouldn't be on the label all the time.
- Yeah, people are lazy, they just won't read it.
- Once you know that . . . you look at something that's 50 . . . you would and I would automatically pick the 50 over the 65.
- I think a lot of it—"must shout to be understood," "may interfere with normal conversation"—these things are so personal, I can't sleep when there's a TV going, but Sam, it doesn't bother him one bit cause he'll sleep no matter what.

Group 4

- I have a problem with this one. It tells you what the things mean, but it still doesn't tell you how the product compares with the different brands.
- If I were to purchase one, I would look for one with 45.

[Interviewer: Do you think you could use this information to purchase quieter products?]

- Not necessarily, because you may be forever looking for that 45 when the lowest is 60 for that product.
- I think there is too much to read there. I don't think a person is going to spend that much time reading.
- The worst one on there, the one that gives you the least information is "may interfere with relaxed activities." I don't know what that means. The others give you a pretty good idea about the sound associated with the decibel rating.
- It doesn't tell you how low they go. You may be looking for one at 45 when they don't even manufacture that in any brand. I don't understand "may interfere with sleep."
- It doesn't tell me if it's going to bother me.
- When you asked if this had too much information—it doesn't, for what you're trying to say, but I still like the last label which gave the range instead. Given this kind of product—you can find them in a given range.
- This information should be like TV education. In school . . . advertisements. . . where it's learned by everybody so it's common knowledge and doesn't have to be written 5 million times.
- It's better to have the range for the kind of product you're buying.

Reactions to Decibel Guide Alternatives

Interviewer: Does anyone like either of these two alternatives better than the one you have just seen?

Group 1

- That last one (second alternative) is bad . . . really bad . . . when you have to compare it to TV . . .
- The only thing that last one (second alternative) does do is that "over 75 decibels is hazardous."
- It gives additional information. In addition to being noisy it can be damaging.
- I would be scared away by it . . . A hairdryer? Potentially damaging? . . . it would scare you. I think the first one (original label) is the less dramatic of the three and does get the point across.
- I think the first one down here (second alternative) . . . "75 and above" and "45 and below" are much more descriptive than anything. But the two in the middle, when they compare it to TV are kind of . . . If they could take the two out of the first one . . . "may interfere with conversation" and "may interfere with relaxed activities" and plug them into this one (second alternative) . . . you'd have a dynamite rating system.
- I think in the ratings you've got to tell them what it does . . . So it interferes with normal conversation . . . Where you do have what's potentially damaging . . . If this is to protect the consumer . . . I think you do need to show them what damage can be incurred.
- What's "relaxed" activities?

Groups 2, 3 [Tape recording errors were encountered. However, general agreement was reached in both groups that neither of the two decibel guide alternatives were better than the first one shown and the "TV interference" statements were criticized by both groups.]

Group 4

- The bottom one would discourage me from buying any kind of blow dryer . . . Because it's "potentially damaging to hearing" or "may interfere with TV in an adjacent room" etc. The buyer would be discouraged before he got started.

[General agreement that neither alternative was better.]

Reactions to "As Loud As" Labels

Interviewer: What are your general reactions to these labels?

Group 1

- I don't like any of that stuff.
- It's ridiculous.
- It's about as good as a duck on a pond, when it's raining in China during a total eclipse.
- It's as good as one hand clapping.
- I thought it was informative. It gave you something you could relate to.
- But didn't it make you feel like an idiot?
- It put it in relationship to something you know.
- I don't know how far 25 feet is.

[Interviewer: Perhaps the idea is good, but the statements are bad?]

- You are qualifying it. Some people like motorcycles. . . others don't. This will color their opinions about how loud the product is.
- Your mood at the time you last heard the noise will also affect how loud you think it is. How do you relate to a motorcycle?
- Going back to this one (decibel guide) . . . I think this is much more informative.
- a new Honda *versus* a Harley Davidson with straight pipes?—they're different.
- I think it is a good idea if you can find a common point, e.g. motorcycles *versus* dirt bikes. The idea is good—the point of reference is confused.
- I've never paid attention to the noise of a motorcycle.
- But are there any sounds that you can relate to?
- A universal sound is the problem.
- I like the statements about interference—whether it interferes with what you are doing is most important.
- The concept is simplistic.

Group 2

- Bordered on ridiculous . . . Should you borrow a motorcycle to see what it sounds like 25 feet away.
- I didn't like it because it's using a reference that also varies. Compared with a car—is that a Pinto or a Corvette?
- Yeah, at 5 miles per hour or 70 miles per hour?
- Yeah, I don't know how far 25 feet is.

[Interviewer: Does anybody like the distance idea?—NO!)

Group 3

- It doesn't really tell you much. You have to flag down a car and tell it to get 25 feet away.
- Yeah, some cars are louder than others.
- Yeah.
- What size car? What size truck? What size engine?–or whatever.
- Yeah, what's it doing, what are the weather conditions?
- Or is it even sitting still?
- Also, I found as I went around (the table) that I didn't really notice until I got to C (display Appliance C) that one (label) said a car, one (label) said a truck, and one (label) said a motorcycle.
- Right.

[Interviewer: Does anybody like the idea of distance?–No!)

- It's too hard to reference.
- A lot of people don't know how far 25 feet is.
- If I were trying to figure this out (the label) from trying to read that and trying to ascertain what type of sound it was, I'd say the hell with it. It wouldn't be worth the hassle.

Group 4

- It's dumb.
- Yeah, dumb.

[Interviewer: How many people think this label is dumb?–Everyone.]
[Interviewer: Why is it that you don't like this one?]

- You have to run out and find out what a moving motorcycle at 25 feet sounds like.
- It's hard to relate to since I've known cars louder than motorcycles–it depends on the car, the truck, and the motorcycle.
- It's very imprecise . . . I don't know what that means. The variation in motorcycles, trucks, and cars doesn't mean anything to me.
- If I were looking for a rating system I would be looking for something standard that could be used across the board–not going from trucks to motorcycles. I preferred the range where you could be your own judge about where you wanted to go on the scale.

[Interviewer: How about the distance aspect?]

- I don't care for that at all.
- I'm a terrible judge of distance.
- The main thing about this label . . . I keep thinking back to this being a label from the Environmental Protection Agency and I'm not being told whether I'm being protected or not. Again, I'd have to go back to the range.

Reactions to "As Loud As" Alternatives

Interviewer: Does any one like any of these alternatives better than the original label?

Group 1

- I might not have a garbage disposal. What do you call a loud radio? My idea of a loud radio might not be your idea of a loud radio.
- I've never heard a gas lawnmower.
- You can't relate a gas lawnmower to a loud radio.
- How many feet is 25 feet? . . . You don't pay attention to it.
- I think you should relate it to interference.

Group 2

- I wouldn't buy anything that sounds like a motorcycle or a truck because of a bad experience with them.
- There's too much variability in what they are comparing. The reference is too variable.

Group 3

- I don't like any of them ("approximately as loud as" labels) but the bottom one (second alternative) is a lot easier to relate to.
- Yeah.
- Yeah.
- Yeah, but how many people have never heard a garbage disposal.
- True.
- That's true
- Yeah, it's (garbage disposals) really only in the more modern or luxurious homes, the cities.
- Or a gas lawnmower (for that matter).
- Yeah.
- Right.
- Yeah, a loud radio is very personal too.
- But, if they say 90 decibels sounds like a gas lawnmower, *nobody* will ever buy a garbage disposal!
- I think something like this 60 decibels is the conversation level or something to that effect would be more effective . . . something that is common to the entire human race in other words–such as conversation–sleeping–shouting.
- It varies though.
- Yes, but compared to this ("approximately as loud as" labels).
- Normal . . . what is your definition of normal?

Group 4

- I don't like either of the alternatives . . . nor any of this group ("approximately as loud as"). The others were much better. I felt much more comfortable with the information I got from some of the others than I do with this.
- I don't think some people would know how loud a garbage disposal or a gas lawnmower was.
- You can talk about a loud radio with a three-inch speaker or a loud radio with a 20-inch woofer.
- Again . . . there is no range for the drills.
- Go back to the first label (range label).

Noise Labeling Preferences

Interviewer: You have now seen three types of labels . . . what we have called the "range" labels, the "decibel guide" labels, and the "as loud as" labels. I would like each of you to tell me which of the three types you like the best and why.

Group 1

- Guide–the first one gave you the range, but that didn't help you much.
- The guide helps you to relate to it.
- Range–from the consumer standpoint . . . it tells me I should shop around . . . there are others lower.
- Range–helps you shop around.
- Guide–the reference you can apply across products.
- Guide–because I can relate to it.
- Range–same reasons as others.
- Guide–I can relate to it.
- Guide–same reasons.
- Guide–same reasons.
- Range–same reasons.
- Guide–same reasons.

Group 2

- Range–most people know generally how loud something will be and this gives a guide.
- I don't like any. Of these three, though, I like the range.
- All are bad. Need to clarify the range, e.g., "the range of those on the market now is from . . ."
- Range
- I feel all are unnecessary, but if I had to take one, I'd take the first one–give the consumer the figures, better yet, let the consumer plug it into the wall.
- Range–it's easier to understand, the decibel guide has too complicated comparisons, the third one ("as loud as") won't work.
- Guide–if "relaxed activities" and "normal conversation" were clarified. It gives more information if I wanted to purchase on the basis of quietness.
- Range–I wouldn't read the guide.
- Range
- Range–assuming 80 decibels is not going to damage ears or hearing.
- Range–but would want guide in stores, in public view.
- Guide–it clearly states how noise interferes with daily living, if this is the purpose of the labeling program . . . would like 75 level as "must shout to be understood/can be dangerous."

- Range–as long as some statement is included about the level which is potentially damaging.
- Range–since I'd want to know about a given product.
- Range–but would like reference to which is potentially dangerous.
- Range–if safety factor were included, since no safety factor *is* included, will recommend guide since it lets the consumer know which level is potentially harmful.

Group 3

- Range–it's giving you a range in numbers, but I kind of like the one that goes into more detail (decibel guide). I want to know that information, but I don't want it to be on every label–the one I like the least is the 92 decibels ("as loud as") . . . a motorcycle 25 feet away, even though I don't like motorcycles . . . I still can't decide what that sounds like.
- Range–that seems to be the most direct message, you know that 77 is fairly high–I like 84 (decibel guide) the least, nobody is going to read all of that.
- Range–92 ("as loud as") I like the least, the other one (decibel guide) is good initially but after that . . . it gives you a little information . . . but I wouldn't want it on the package all of the time.
- Range–this is the best as far as I'm concerned, once you get educated to the point when you get this information (decibel guide information). . . which you can get in other ways too . .... they can put it on television, minifilms, etc.
- Range–too much on 84 (decibel guide) and 92 ("as loud as") I don't like at all . .... but it is better than nothing.
- Range–the only thing is . . . I'd still like to see something on there that tells people the higher number is louder/the lower number is quieter . . . I still think people are going to get mixed up, some people may think that the 77 would be good, because it's close to 80 . . . the 84 (decibel guide) has too much and the 92 ("as loud as") I don't think people know anything about distance.
- Range–I don't care for the 92 decibel ("as loud as") I can't relate to it . . . initially I would like 84 (decibel guide) but I wouldn't want to read it all of the time on every product.
- Range–92 ("as loud as") you just can't tag to anything . . . what kind of motorcycle? 77 (range) is the best, but it does make the assumption that you know that 45 is very soft, but also the difference between 45 and 80 . . . is that a big range or small? . . . the difference between 45 and 80 if the loudest thing you can imagine is 200 . . . we don't really have a way of telling exactly . . . it assumes that you know about how loud a food mixer is.
- Guide–like the 84 (decibel guide) because it gives you a good range and tells you where things are, 77 (range) I think that gives you no basics, or what to start with, and 92 ("as loud as") I don't like at all.

- Range—but should be an asterisk after decibel and down at the bottom say "a decibel is a unit of noise measurement on a scale of 0 to 130, where 130 is the pain threshold," so that you know that higher isn't better, and that the scale doesn't stop at 100 . . . 84 is too busy . . . and 92 is rather ambiguous even though it sounds precise.

- Range—I think this is going to be rather redundant all the way around the room, but 92 basically cannot be related to; 84 . . . is too busy; 77 (range) is the best . . . I would look at the approximate range as "this is the quietest it's going to be at the one end and the other is the loudest it's going to be at the other end" but we still won't be able to reference . . . is 80 at the painful level? is it still going to be what I can stand?
- Range—it tells you the rating for that particular appliance, for example, for drills this one will be high . . . it kind of breaks it down a little bit for you; (84) the information is good for educational purposes, but I don't think it needs to be on the label, and 92 doesn't tell me anything.
- Range—but it should be supplemented with some sort of graphic representation, such as a green to red type of thing like a stop light, everybody understands red and green, give the decibel ranges in a color code; 84 would be very difficult to read; 92 can't be related to.
- Range—because I could comparative shop and see which is about the quietest and these others don't say anything about the specific appliance, but I do think you also need some kind of gauge to tell you how it relates to the threshold of pain.
- Range—92 is worthless; 77 is the best but I would definitely want to see it combined with some type of a graphic or picture form using the information on 84, maybe not that detailed, but something comparing it to the normal conversation level.
- Range—92 is totally useless; 77 is the best but have something about a 0 to 130 scale; 84 is useless provided the consumer would be advised of this in advance anyway.

Group 4

- Range—it (range) gives comparative information.
- Range—"as loud as" doesn't make much sense; "decibel guide" has too much information and I probably wouldn't bother with it at all; the first one (range) is more precise.
- Range—It (range) tells me something about the product in relation to other brands of the same kind of product, so I liked that the best, the 92 ("as loud as") is the least satisfactory.
- Range—the first one (range) gives you a better idea of what you're looking for in the particular product you're after so you can do comparison shopping. I liked the last one the least ("as loud as")—it leaves a lot to your imagination—I have nothing to relate it to.

- Range–First is the best (range). You still have the problem of whether 45 is high or low, but it's still a lot better–as opposed to having to sift through a lot of information–I liked the last one ("as loud as") the least.
- Range–First is best (range) as long as the person is educated as to what high is and low is–Least is the last one ("as loud as"), how many people know what a moving motorcycle sounds like 25 feet away. It leaves you wondering what they're talking about.
- Range–First is preferable (range). It gives a clear scale. When you purchase something there are many reasons for purchasing it. I think this would give you a clear quick scale for determining the noise component.
- Range–First (range) is best for the reasons we've stated and the last ("as loud as") has no redeeming value whatsoever–social or otherwise.
- Range–First one (range) because it gives you a scale to go by. The last one the least ("as loud as") because it doesn't tell you anything.
- Range–I agree with everybody else.

APPENDIX E

PUBLIC PARTICIPATION

This appendix contains a listing of contacts with the public, the communications media and members of Congress during the development of the regulation, and an abbreviated list of all the organizations, associations and individuals, both domestic and international, that the Agency was able to identify as potentially affected by, proponents of, users of or in any way interested in, the General Provisions for Product Noise Labeling.

The Agency has actively contacted the parties on this list by direct mailing of information to them about the General Provisions.

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NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEMBERS OF CONGRESS WITH WHOM THERE WAS CONTACT DURING REGULATORY DEVELOPMENT
3324200X	Teague, O. Congress House of Representatives
3324190X	Stokes, L. Congress House of Representatives
3324180X	Weicker, Jr., L. P. Congress Senate
319317AX	Esch, M. L. Congress House of Representatives
319316AX	Kennedy, E. M. Congress Senate
331394AX	Huges, W. J. Congress House of Representatives
326213EX	Bayh, B. Congress Senate
326212CX	Thurmond, S. Congress Senate
330120AX	Eagleton, T. F. Congress Senate
330119AX	Dodd C. J. Congress House of Representatives
330118AX	Glenn, J. H. Congress Senate
330117AX	Kemp, J. F. Congress House Representatives
330116AX	Talmadge, H. E. Congress Senate
330115AX	Schweiker, R. S. Congress Senate
330114AX	Hayakawa, S. I. Congress Senate
330113AX	Heinz, H. J. Congress Senate
330111AX	Stone, R. Congress Senate

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEMBERS OF CONGRESS WITH WHOM THERE WAS CONTACT DURING REGULATORY DEVELOPMENT
3283840X	Hughes, W. J. Congress House Representatives
3275480X	Dodd, C. J. Congress House of Representatives
3269760X	Stokes, L. Congress House of Representatives
3264620X	Rousselot, J. H. Congress House of Representatives
324098AX	Griffin, R. P. Congress Senate
319367AX	Sawyer, H. S. Congress House of Representatives
305066DX	Griffin, R. P. Congress Senate
318576CX	Flock, S. T. 5611 St. Roch. Ave., New Orleans, La. c/o Boggs, L. Congress House of Representatives
318576AX	Boggs, L. Congress House of Representatives
318553EX	Johnston, J. B. Congress Senate
316186AX	Rooney, F. B. Congress House of Representatives
313730CX	Hayakawa, S. I. Congress Senate
312367BX	Cederberg, E. A. Congress House of Representatives
309516CX	G, B. Congress House of Representatives
310158CX	Nunn, S. Congress Senate

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEMBERS OF CONGRESS WITH WHOM THERE WAS CONTACT DURING REGULATORY DEVELOPMENT
310130DX	Percy, C. H. Congress Senate
310130AX	Percy C. H. Congress Senate
310128CX	Hayakawa, S. I. Congress Senate
310126BX	Cederberg, E. A. Congress House of Representatives
310125DX	Thone, C. Congress House of Representatives
307443FX	Griffin, R. P. Congress Senate
305122CX	Stevenson, A. E. Congress Senate
305121CX	Proxmire, W. Congress Senate
302610CX	Armstrong, W. L. Congress House of Representatives
303770BX	Armstrong, W. L. Congress House of Representatives
3036373X	Anderson, J. B. Congress House of Representatives
303449BX	Rooney, F. B. Congress House of Representatives

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
3329310X	Farm and Home News
332161CX	Milwaukee Wisconsin Journal
3316600X	Air Conditioning Heating and Refrigeration News
3305110X	Appliance Manufacturing
331497BX	New York Times
330260ZX	Noise Regulation Reporter
3296870X	Parkersburg WV Sentinel
3309050X	Worcester MA Gazette
3273000X	Lexington KY. Hearld Leader
3272990X	Alameda CA. Times Star
3256990X	Rental Equipment Register
3237240X	Air Conditioning Heating and Refrig. News
314503AX	Noise Regulation Reporter
312626AX	Bureau of National Affairs Noise Regulation Reporter
312624MX	Bureau of National Affairs Noise Regulation Reporter
312622QX	Bureau of National Affairs Noise Regulation Reporter
312607EX	Noise Regulation Reporter
3227380X	Passaic NJ Herald News
320888AX	Noise Regulation Reporter
3207590X	Occupational Hazards
3194620X	Commerce Business Daily
3194570X	Muffler Digest
305066CX	Appliance Manufacturer

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
3190830X	Product Safety and Liability Reporter
318576DX	New Orleans LA Times Picayune
3176870X	Kleiman, R. L. Lantana FL. National Enquirer
3176330X	Changing Times
3175860X	Sacramento CA. Bee
317278BX	Sound and Vibration
3161530X	Washington Post
3161520X	Wall Street Journal
3161500X	St. Louis Mo. Post Dispatch
3156040X	Construction Equipment
3151060X	Montgomery, G. F. Scientific American
311855SR	Bureau of National Affairs Noise Regulation Reporter
3146020X	Changing Times
314555GR	Bureau of National Affairs Noise Regulation Reporter
314554ER	Bureau of National Affairs Noise Regulation Reporter
314646WR	Bureau of National Affairs Noise Regulation Reporter
314646MR	Bureau of National Affairs Noise Regulation Reporter
314074FR	Bureau of National Affairs Noise Regulation Reporter
313641PR	Bureau of National Affairs Noise Regulation Reporter
313641HR	Bureau of National Affairs Noise Regulation Reporter

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
312989CX	Sound and Vibration
3126690X	Dunkirk, N.Y. Observer
3120260X	Los Angeles CA. Herald Examiner
3116530X	Occupational Safety and Health Reporter
3118250X	Lynn MA. Evening Item
3118230X	Longview WA News
309517BX	Business Week
310159BX	Environment
3081810X	Tacoma WA. News Tribune; Washington
3080420X	Transport Topics
3078320X	Owensboro KY. Messenger and Inquirer
3081240X	Koldfax Oct. 1977, 1P.
3081200X	Air Conditioning Heating and Refrig. News
3078190X	Portland ME. Press Hearld
3078180X	Tulsa OK. World
3077830X	Boston MA. Hearld American
3077580X	Berland, T. Pittsburgh PA. Post Gazette
3077350X	Quincy MA. Patriot Ledger
3077130X	Dallas TX. Morning News
3075580X	New York Daily News
3075530X	Washington Post
3072680X	Damascus MD. County Courier
3075810X	Yonkers NY. Herald Statesman
3071890X	White Plains NY. Reporter Dispatch

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
3073470X	Baltimore MD. Sun
306693DX	Reprinted from New Civil Engineer, 29th August 1974
306382CX	"Appliance Manufacturer" Farrell, J. M.
3060730X	Newark NJ. Star Ledger
3061760X	Business Week Magazine
3061710X	Eastern Sea Magazine
3061600X	Air Conditioning Heating and Refrig. News
305066BX	Appliance Manufacturer Magazine
305025WR	Bureau of National Affairs Noise Regulation Reporter
3048950X	Collier, T. Cedar Rapids Television Station
304861AX	San Francisco CA. Chronicle
3054410X	Berland, T. San Francisco CA. Examiner Chronicle
3054260X	Payton, B. San Francisco CA. Examiner
3054110X	Alameda CA. Times Star
3053820X	Champion, D. San Francisco CA. Chronicle
3053520X	Anderson,C. Cedar Rapids IA. Gazette
3052880X	New York Times
304854CX	Environmental News
304703FR	Bureau of National Affairs Noise Regulation Reporter
304653MR	Bureau of National Affairs Noise Regulation Reporter

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
304653CR	Bureau of National Affairs Noise Regulation Reporter
3046280X	Appliance Manufacturer Magazine
3044900X	Philadephia PA. Inquirer
304575LR	Bureau of National Affairs Noise Regulation Reporter
304574YR	Bureau of National Affairs Noise Regulation Reporter
300273EX	Sound and Vibration
302337BX	Detroit MI. Free Press
3038950X	Denver Co. Post
3038450X	Environmental News
3037100X	Birmingham AL. News
302006CR	Bureau of National Affairs Noise Regulation Reporter
303705VX	Shaffer, T. Denver CO. Post.
3036890X	Lane, E. Long Island NY. Newsday
3036200X	Cook, L. Tulsa OK. Tribune
3036160X	Murray KY. Ledger and Times
3036060X	Nashville TN. Tennessean
3035930X	Worcester MA. Gazette
301746DR	Bureau of National Affairs Noise Regulation Reporter
3015260X	Wall Street Journal
3015210X	Cummings, J. Corvallis OR. Gazette Times

NOISE INFORMATION SYSTERM ACQUISITION NUMBER	MEDIA CONTACT DURING REGULATORY DEVELOPMENT
3015180X	Payette, V. New York NY News World Daily
301714BX	Cummings, J. New York Times
3017160B	Bureau of National Affairs Noise Regulation Reporter
3013260X	OMAHA NB Evening World Herald
3016700X	Chicago IL Daily News
3015490X	Flattau, E. Rockford IL Register Republic
3014050X	Washington Star
3013850X	Tucson AR Daily Star
3013770X	Ann Arbor Minews
1128370X	Commerce America
1126430X	Outdoor Power Equipment Inst OPEI Newsletter
111147HX	Bureau of National Affairs Noise Regulation Reporter
1109490X	Erwin, D. Dallas TX Morning News
1105320X	Air Conditioning Heating and Refrig News
16573	Modern Materials Handling
15061	Noise Pollution Aatement Market
14509	Jacobson, R. A. Machine Design
04860	Business Week
72N00504	House Beautiful

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
332161DX	
3321220X	American Society For Testing and Materials
318752BX	Department of Commerce/Occupational Safety and Health Admin.
3324240X	Union Carbide Corp.
3324120X	Case J. I. Co.
3323150X	Minnesota Mining and Manufacturing Co.
3323140X	Smith Corona Labs.
3317370X	Chain Saw Manufacturing Assoc.
331731BX	Federal Trade Commission
3317290X	Norton Co.
3317060X	Farm and Industrial Equipment Inst.
331431AX	Chain Saw Manufacturing Assoc.
331621BX	Major Appliance Consumer Action Panel
3316140X	Ceilings Interior Systems Contractor Assoc.
3316010X	Vacuum Cleaner Manufacturing Assoc.
3316340X	Underwriters Labs., Inc.
3318110X	Construction Industry Manufacturing Assoc.
3317930X	Perkins Diesel Corp.
3317920X	American Society for Testing and Materials
3317910X	Louis C. Kramp Assoc.
331465AX	Association of Home Appliance MFRS.
3304870X	Trane Co.
331560AX	Federal Trade Commission

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3315940X	Federal Register
3298970X	Verband Deutscher Elektrotechniker
3298930X	Federal Trade Commission; Squire Sanders and Dempsey
3302570X	Union Carbide Corp.
3302370X	Air Conditioning and Refrigeration Inst.
3302290X	Sears Roebuck and Co.
3293340X: 3293350X	Farm and Industrial Equipment Inst.
329327BX	MPI Marketing Research, Inc.
329060BX	Dekker and Nordemann BV
3150850X	American Society For Testing and Materials
329075BX	Baumgart, G. Association of Home Appliance Manufacturers
329075AX	
3290630X	American Society For Testing and Materials
3289340X	Vacuum Cleaner Manufacturers Assoc.
3299290X	Coast Guard
3299280X	Federal Trade Commission
3292730X	Air Conditioning and Refrigeration Inst.
329269BX	American Speech and Hearing Assoc.
3289630X	Federal Trade Commission
3289569X	Conwed Corp.
3289530X	Sears Roebuck and Co.
3289520X	Singer Co.
329259BX	Air Conditioning and Refrigeration Inst.
3290360X	Noise Control Engineering Texas A and M Univ.

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3283720X	United Kingdom Embassy
3283710X	Outdoor Power Equipment Inst.
3274870X	Technology Consulting Group, Inc.
3280080X	Association of Home Appliance Mfrs.
3277170X	Stanford Research Inst.
327715AX	Sylvester, Jr., J.
329044DX	American Speech and Hearing Assoc..
3112830X	Occupational Safety and Health Admin.
3142610X	EPA Region III Philadelphia
3269840X	Conwed Inc.
3269700X	Department of the Air Force
3269620X	National Bureau of Standards
3269510X	American Rental Assoc.
326213CX	Vacuum Cleaners Manufacturing Assoc.
326212BX	Electrolux
3269390X	Audiology Inc.
3269380X	Salem Label Co. Inc.
3269370X	Southern California Univ. of
3265720X	Toro Co.
3265280X	National Bureau of Standards
3261620X	Federal Trade Commission
3266170X	Office of Management and Budget
3265970X	Power Tool Inst.
3265800X	Massey, W. Department of the Army

NOISE ACQUISITION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3265790X	Washburn Department of the Army
3265780X	Marin, J. Department of the Army
3265730X	Outdoor Power Equipment Inst.
3256950X	Hoover Co.
3256930X	Bissell Inc.
3256590X	Regina Co.
3256230X	Interagency Regulatory Liaison Group Status
3266890X	Citizens Against Noise
3099290X	Consumer Product Safety Commission
313236AX	Pennsylvania State University
3264630X	Armstrong Cork Co.
3260460X	Commerce Business Daily
3259530X	Vacuum Cleaner Manufacturers Assoc.
3135900X	Leach, A. F.c. P.O. Box 10510 Portland OR 97210.
0135870X	Bernstein, D.
3257990X	Hoover Worldwide Corp.
3255350X	Harnik, P. 2200 19th Street, N.W. Washington, D.C.
3254950X	Schwarz, W. 1215 First Avenue, 4A New York, N.Y. 10021
3254820X	Rosco Bloss of NBS
3254430X	Consolidated Foods Co.
3252280X	Aerospace Medical Research Lab. Department of Air Force

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3252260X	Douglas Products
325225BX	Bank of America Nat'l. Trust Savings Assoc.
325225AX	Bank of America Nat'l. Trust Savings Assoc.
3252130X	Air Conditioning and Refrigeration Inst.
3247950X	Sears, E. L. 64 East Acocia Boulevard Battle Creek, Mi. 49015
3247830X	Kirby Co.
324760AX	Bosch Siemens Hauseraete GMBH
323927BX	Altuner, H. J. 219 B. Jackson Circle Chapel Hill, N.C. 27514
323927AX	Altuner, H. J.
3239110X	National Bureau of Standards
323910BX	Uncon Ltd.
323910AX	Danzey, B. J. Uncon Ltd.
323909BX	New Zealand Department of Health
323909AX	New Zealand Department of Health
3226310X	Shop Vac Corp.
3226220X	Contact with Mobile Source Labeling People
3225780X	Smith, F.
3225750X	Southwest Manufacturers Distributors, Inc.
3225640X	Dowell and Dowell
3226080X	Patchogue N.Y. Department of Environmental Protection
3226070X	French Government's Domestic Product Labeling Program Consoli, M. A. Director Prevention Pollution Nuisances

NOISE ACQUISITION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3221560X	Bautz, W. ABT ZE-TV, Postfach 12 20, 7928 Giengen/Brenz, West Germany Bosch Siemens Hausgeraete GMBH
3213600X	Natter Manufacturing Co.
3211850X	Northeastern Univ.
3211840X	Jet Line Products, Inc.
3211830X	Eureka Co.
3211250X	Nixon, C. Department of the Air Force
3211210X	Limacher, R. Petrosewicz, T. Platts, J. H. Robin, S. Interstate Engineering
3209990X	Association of Home Appliance Mfrs.
3209920X	J. C. Penney Co., Inc.
320682BX	Sound and Vibration
3206580X	Interstate Engineering
320365AX	Gypsum Assoc.
3186250X	Trane Co.
319141JX	International Organization for Standardization
318582BX	Eureka Co.
318545AX	Farrell, J. M. 819 Macomber St. Greenville, MI 48838
3184270X	Blaskovich, N. Johnson, D. Nixon, C. Tobias, G.
3184180X	Meyercord Co.
3179370X	Leboeuf Lamb Leihy and Macrae

NOISE ACQUISITION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3176420X	General Accounting Office
317557AX	San Francisco CA. Police Department
3175510X	National Inst. Occupational Safety & Health
3172620X	AO Safety Products
317260BX	Talty, J. T. Robert A. Taft Laboraties 4676 Columbia Parkway Cinncinnati, OH. 45226
3170370X	Outdoor Power Equipment Inst.
3168590X	Baake, P. K. Carrier Parkway Syracuse, NY. 13221
3165980X	Leboeuf Lamb Leihy and Macrae
3165970X	Technomic Consultants
3161760X	Aerospace Medical Research Lab.
3160920X	Fleming, R. M. National Inst. Occupational Safety Health
3155870X	Dieffenbach, A. National Inst. Occupational Safety Health
3155480X	Danzey, B. J. Uncon Ltd.
3154310X	Munger, G. R. Air Conditioning and Refrigeration Inst.
3156120X	Doyle, M. B. International Snowmobile Industry Assoc.
3153040X	Martens, T. Walnut Creek CA. Contra Costa Times
3150670X	Herold, W. Yankee Clipper Trading Co. Ltd.
311418IX	Pankiewicz, D. V. New Jersey Department of Transportation
311418HX	Ford Motor Co.

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
311418EX	North Dakota State Univ.
310934BX	Krish, E. 30301 Forest Grove Willowick, or 44094
310921AX	Mentz, E. J. Outdoor Power Equipment Institute Inc.,
3082530X	New, J. T. Hughes Tool Co.
3081880X	Bilsom International Inc.
3139140X	Brigham, R. N. Electrolux
3132810X	Hoover, J. S. Hoover Co.
309051AX	Campanella, A. J. Acculab
3083600X	Large, J. B. Southampton Univ.
3132570X	Doyle, M. B. International Snowmobile Indus. Assoc.
3132550X	Neroda, T. 968 Bradley Street Watertown, N.Y. 13601 Northland Division
313249BX	Taylor, H. E. 2000 Ocean Drive Ft. Lauderdale FL. 33316
3128710X	Citizens Against Noise
3117290X	Doyle, P. Outboard Marine Corp.
3120560X	Deming, R. H. McGraw Edison Co.
3116140X	General Motors Technical Center

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3110200X	Schmitz, H. D. 18081 Beach Boulevard Suite A, Huntington Beach, CA. 92648 Audiology Inc.
3098100X	Merfeld, M. J. Century Engineering Corp.
3098090X	Bobrowski, H. Embassy of Federal Republic of Germany
3095120X	Jensen, D. A. Ford Motor Co.
3094650X	Woods, T. J. Aural Technology Inc.
3094640X	Blaskovich, N. National Inst. Occupational Safety Health
3094620X	Broker, E. Norton Co.
310158AX	Black, L. L. Route 2, Box 144-A Millen, Ga. 30442
3101360X	Tobias, G. B. Civil Aeromedical Inst. F.A.A.
3101710X	Rusch, F. S. Stihl Inc.
3093870X	Reynolds, Sr., E. 40165 Upper Calopooia Drive Sweet Home, OR. 97386
3074070X	Franz, R. N. Chrysler Corp.
3097970X	Form Letter to Radio Stations Asking for Advance Coverage on Labeling Public Hearing
307647CX	Engine Manufactures Assoc.
3073770X	Forman, H. I. Department of Commerce
3091950X	Nolte, V. A. Fairmont Railway Motors, Inc.

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3089500X	Spiller, W. Clipper Vacuum Systems, Inc.
3089490X	Blyth, C. R. Maytag Co.
3088760X	Buyers Guide Hoover Co.
3080150X	Mohler, P. H. Hoover Co.
3080120X	Osterreichisches Normungsinstitut
307645AX	Dwyer, R. T. Outdoor Power Equipment Inst.
307634AX	Cole Blaha, P. 135A East Colonial Court Indian Harbour Beach, FL. 32927
306973AX	Mott, E. S. Mott Corp.
3068130X	Adams, J. V. Boulder Co. Office of Environmental Protection
306372AX	Milliken, W. G. Michigan Office of the Governor
306461AX	Tobias, J. V. Aeronautical Center, P.O. Box 25082 Oklahoma City, OK. 73125
3063540X	Sobesky, J. V. Harness Dickey and Pierce
3063140X	Benwell, D. A. Radiation Protection Bureau, Rm. 237 Tunney's Pasture Ottawa, Ontario, CN.
3063030X	Rodman, C. W. 1916 Race St. Philadelphia, Pa. 19103 American Society for Testing and Materials

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3062870X	Phillips, H. 20 North Wacker Drive Chicago, IL. 60606 Association Home Appliance Manufacturers
3062400X	Food and Drug Admin.
3051640X	Wright, J. H. 645 Locust Street, P. O. Box 476 Waukee, IA 50263
3051590X	Faber, K. H. Mercedes Benz of North America Inc.,
3051430X	Flynn, R. P. Safety Products, Southbridge, MA. 01550
305121AX	Hyland, W. A. 708 Karen Lane Horicon, WI. 53032
3050940X	Environmental Protection Office Equipment Noise Test Data Boulder CO. Office of Environmental Protection Boulder, CO.
304876AX	Mohler, P. I. General Offices and Main Factory, North Canton, OH. 44720 Hoover Co.
304759BX	Barnes, B. Chrysler Indianapolis Foundry
3031380X	Lund, A. L. Spray Tech. Corp. 4307 Quebec Avenue North Minneapolis, MN. 55428
3028730X	Sornson, R. O. Chrysler Corp.
3029960X	Food and Drug Administration
302813AX	Louis, F. Regie Nationale Des Usines Renault 100 Sylvan Avenue Englewood Cliffs, N.J. 07632

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3027820X	Kawano, J. Toyota Motor Co. Ltd. Lyndhurst Office Park, 1099 Wall Street, West, Lyndhurst, N.J. 07071
3028020X	Shirai, C. Japan Machinery Federation
302653CX	Jackson, A. J. Div. of Professional Services Cincinnati OH.
302651DX	Blumenthal, W. M. Department of the Treasury
3026370X	Penn, J. C. Artic Enterprises, Inc. Thief River Falls, MN. 56701
3008160X	Michael, P.L. Environmental Acoustics Lab. 110 Moore Building, University Park, PA. 16802 Pennsylvania State University
3040940X	Federal Register
304051BX	Thompson, J. N. Room 481, Queen Anne's Chambers 28 Broadway, London, UK. London Department of the Environment
303735AX	Wasko, R. J. Motor Vehicle Manufacturers Assoc. Address: 300 New Center Building Detroit, MI. 48202 Motor Vehicle Manufacturers Assoc.
303783DX	Jones, D. K. Large, J. B. Organization for Economic Coop. and Devel.
300606DX	Bruel and Kjaer Precision Instruments, 5111 West 164th Street, Cleveland, OH. 44142
300262AX	Leach, A. F. Hearings Evaluation and Acoustic Res., Inc. 732 Northwest 19 Street Portland, OR. 97209

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
3001270X	Johnson, D. L. Biological Acoustics Branch Biodynamics and Bionics 6570 TH .Aerospace Medical Division Research Lab. (AFSC) Wright-Patterson AFB, OH 45433
3033300X	Peppin,R. J. 1711 Westwind Way McLean, Va. 22101 American Society of Mechanical Engineers
303440AX	Maling, G. C. Institute of Noise Control Engineering P.O. Box 3206, Arlington Branch Poughkeepsie, NY. 12603
3021230X	Mellard, B. Stihl Inc. 5701 Thurston Avenue, Box 5514 Virginia Beach, Va. 23455
3021220X	McKenzie, M. Southern First Aid Supply Co. Inc. 1120 Piedmont Drive, P. O. Box 669 Lexington, N.C.
3020730X	Macenko, F. Environment Canada Ottawa, Ontario, CN. KIA IC8
301699BX	NBS Label Program
300694AX	Reardon, J. P. Air Conditioning and Refrigeration Inst. 1815 North Fort Myer Drive Arlington, VA 22209
111351AX	Purdue Univ.
1110670X	Jacklin, A. W. Jacklin Seed Co.
2020600I	Alexandre, A. Environmental Directorate Organization for Economic Coop and Devel
18210	Miller, P. C. 5821 Harper Road, Zip 44139 Tooling and Production

NOISE INFORMATION SYSTEM ACQUISITION NUMBER	PUBLIC CONTACT DURING REGULATORY DEVELOPMENT
72N00485	Martin, W. G. Thompson,E. B. Home Metal Production Co., Plano, TX
72N00484	Dorn, J. E. Frigidaire Division

PUBLIC PARTICIPATION THROUGH DIRECT MAILING
GENERAL PROVISIONS

CATEGORY	NUMBER OF ENTRIES	EXAMPLES
Acoustical Associations	4	Acoustical Society of America National Council of Acoustical Consultants
Business Associations	122	American Chamber of Commerce Jaycees International
Citizens Associations	7	Citizen Action Group Call for Action
Community Groups/ Associations	13	Rotary International Lions International
Construction Industry Associations	17	American Building Contractors Association Associated General Contractors of America, Inc.
Consumer Associations	19	Center for Consumer Affairs Consumers' Union of United States
Environmental Associations	126	John Muir Institute for Environmental Studies National Environmental Development Association
Associations of Importers/ Exporters	19	World Trade Centers Association National Federation of Export Management Companies
Insurance Associations	11	Health Insurance Association of America International Claim Association
Legal Associations	3	American Bar Association Special Committee on Environmental Law Student Legal Action Action Organization

CATEGORY	NUMBER OF ENTRIES	EXAMPLES
Manufacturers' Association	63	National Association of Manufacturers National Canners Association
Professional Associations	15	Home Economists in Business American Society of Mechanical Engineers, Inc.
Retailers' Associations	4	National Retail Merchants Association
State & Local Associations:		
Mayors & Governors	8	U.S. Conference of Mayors
Teachers' Associations	5	National Congress of Parents & Teachers National Education Association
Trade Association	32	National Beauty & Barber Manufacturers Association Northwestern Lumber, Inc.
Congress	535	Senate and House of Representatives
Congressional Committees	11	Senate Committee on Energy and Natural Resources
Docket Entries-General Provisions	777	
Environmental Research Centers	48	Environmental Sciences Institute
Federal Agencies	42	Office of Management & Budget National Mediation Board Department of Commerce
Foreign Embassies	102	Embassy of Brasil
International Organizations	2	Organization for Economic Cooperation and Development

Law firms with Environmental Interest	332	Abatuno and Chisholm
Mail Order Houses	23	Walter Drake and Son, Inc. Sears, Roebuck and Co.
Major Manufacturers & Distributors	554	National Gypsum Corp. Eastman Kodak Co. General Electric Co.
Major Retailers	100	Top 100 Retailers
Media: Environmental Publications	92	*Journal of the Acoustical Society of America* *Archives of Environmental Health* *Cry Californian*
Media: General	70	*U.S. News and World Report* *Better Homes & Gardens*
Media: Industry Specific	14	*Heavy Duty Trucking*
Public Interest Groups	133	National Council of Senior Citizens American Association of Retired Persons
Sports Stores	41	Abercrombie and Fitch
State and Local: Attorneys General	50	
State and Local: Governors	50	
Universities	515	Texas A & M
State and Local Law Enforcement	1	National Sheriffs Association
State and Local: Mayors, Local Noise Officials and Health Departments	893	L.A. Banda, City of Fremont CA., Planning Dept.. Zoning Administrator, Tucson, AZ. Mrs. Jane Byrne, Chicago
State and Local Procurement Offices	50	Purchasing Bureau, State of Maryland Material Management Bureau District of Columbia

Army/Navy Exchanges	2	Army/Air Force Exchange System
Foundations	5	Carnegie Foundation

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(Please read Instructions on the reverse before completing)

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9. PERFORMING ORGANIZATION NAME AND ADDRESS Environmental Protection Agency Office of Noise Abatement and Control 401 "M" Street, S.W. Washington, D.C. 20460		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO.
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16. ABSTRACT

This document presents information used by EPA in developing the General Provisions for Product Noise Labeling including: a review of other Federal labeling programs; the major issues involved in formulating a general approach to product noise labeling; the approach to the design graphics; potential technical problems associated with the development of specific noise rating schemes; the Agency's response to comments, and resolution of issues raised during the public comment period; an analysis of the public comment to understand the public perception of product noise labeling; and the participation of the public throughout the development of the regulation.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Docket analysis, economics, enforcement, label graphics, Noise Rating, Noise Reduction Rating, sound power, sound pressure, voluntary labeling	Acoustic descriptors, consumer issues, labeling, population surveys, public participation, rating schemes	

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